L. 2090.

Special Report Series No. 42

The Nutritive Value of Indian Foods and The Planning of Satisfactory Diets

(Previously published by the Directorate General of Health Services, Ministry of Health, Government of India, as Health Bulletin No. 23)

25, 18.9, 259

R. E. T. C. LIBRARY
P.H.141-2
2090
KOVILPATTI.

BY

W. R. AYKROYD
Ex-Director, Nutrition Research Laboratories

SIXTH REVISED EDITION

BY

C. GOPALAN, *Director*

AND

S. C. BALASUBRAMANIAN, *Research Officer*
Nutrition Research Laboratories, Hyderabad

2989

338.1954 BAL

INDIAN COUNCIL OF MEDICAL RESEARCH
NEW DELHI
1963

BOOK DEPOT
BOMBAY-7.

Price : Rs. 4.00

L. 2090.
The nutritive value of Indian Foods and Planning of Satisfactory Diets
R.E.T.C. LIBRARY
P.H.141-2
2090
KOVILPATTI.
2989
338.1954
BAL

CONTENTS

	Page
Preface to the Sixth Edition	(v)
Introduction to the First Edition	(vii)
Introduction	1
Dietary principles	1
Proteins	2
Fat	4
Carbohydrate	6
Energy requirements	6
Vitamins	
Vitamin A	9
The B vitamins	11
Vitamin C	15
Vitamin D	16
Mineral salts	18
Effect of cooking on nutritive value	23
Dietary allowances	25
Balanced diet	28
Investigation of diets and their improvement in practice	32
Malnutrition and ill health	36
Dietary requirements of expectant and nursing mothers	39
The feeding of infants	
Dietary requirements of infants	39
Breast-feeding	40
Artificial feeding	42
Weaning	45
Notes on food value tables	47

			PAGE
Table of food values			
I. Proximate principles and energy	...	...	49
II. Minerals	...	...	83
III. Vitamins	...	...	114
Appendix I—Nutritive value of the protein in certain foodstuffs	...	...	134
Appendix II—Essential amino acids in Indian foodstuffs		...	137
Appendix III—Approximate content of polyunsaturated fatty acids in certain edible Indian oils and fats	...	...	141
Appendix IV—Names of foodstuffs in Indian languages		...	142

R. E. T. C. LIBRARY
KOVILPATTI.

PREFACE TO THE SIXTH EDITION

The Bulletin has been thoroughly revised, enlarged and brought up-to-date. The printing and the size of the publication have also been modified with a view to facilitate easy reading.

The Indian Council of Medical Research had sponsored investigations of the Nutritive Value of Indian Foodstuffs under the Second Five-Year Plan at several centres in India. The data collected at these centres have also been made use of in the preparation of the Tables on food values.

As the Bulletin is meant to serve the whole country, all available published information on nutritive value of Indian foods has been included in the Tables. The scope of the Tables has been enlarged to include values for sodium, potassium, magnesium, copper, sulphur, chlorine and the minor B vitamins in several foods. The number of foods on which data are presented now total about 850. Information on the essential amino-acid content of Indian foods, polyunsaturated fatty acid content of Indian edible fats and the nutritive value of the proteins are presented in the Appendix. The Kashmiri names of a few foods became available through the courtesy of Dr. M.L. Qazi, Nutrition Officer, Srinagar and the Gujarati names have been corrected wherever possible, in the light of the helpful comments made by Mr. G.M. Oza of Baroda; these have been incorporated in Appendix IV. Information on the nutritive values of several leafy vegetables consumed in the Madras State was placed at our disposal by the kind courtesy of Mr. V. Nagarajan, formerly of the Madras Public Health Department.

We wish to thank Dr. B.S. Narasinga Rao and other members of the staff of the Nutrition Research Laboratories for helpful suggestions in the preparation of this revised edition.

Hyderabad,
June, 1962

C. Gopalan
S.C. Balasubramanian

R. E. T. C. LIBRARY
KOVILPATTI.

INTRODUCTION TO FIRST EDITION

The purpose of this Bulletin is to summarise the available knowledge about the nutritive value of Indian foodstuffs for the benefit of public health workers, medical practitioners, superintendents of residential institutions and others interested in practical dietetics. With the help of the tables provided it is possible to work out "balanced diets" for individuals or groups. To do this, however, it is necessary to know what is meant by a "balanced diet". A brief statement outlining modern dietetic principles is, therefore, provided in the first sections of the Bulletin.

The bulk of the data presented is based on work carried out in the Nutrition Research Laboratories, Coonoor, where a special enquiry into the nutritive value of Indian foods has been financed by the Indian Research Fund Association. The Bulletin has been prepared in the Laboratories, and practically every member of the staff has contributed to the work on which it is based. Use has, however, also been made of scientific articles published in India and elsewhere (notably from the Department of Bio-chemistry and Nutrition, All-India Institute of Hygiene and Public Health, Calcutta, under Professor H. Ellis C. Wilson) which contain material of value. While a good deal more work is necessary on the nutritive value of Indian foodstuffs, sufficient data are already available to justify the publication of the Bulletin for use in practical nutrition work.

W.R. Aykroyd, M.D.,
Director, Nutrition Research Laboratories,
Indian Research Fund Association, Coonoor.

R. E. T. C. LIBRARY
KOVILPATTI.

THE NUTRITIVE VALUE OF INDIAN FOODS AND THE PLANNING OF SATISFACTORY DIETS

Introduction

Food is the prime necessity of life. The rapid and noteworthy advances made during the last five decades in the science of nutrition have convincingly demonstrated that correct feeding is essential for a healthy life. The knowledge that we possess today does not confirm the general belief that appetite is a safe guide for the selection of food. Satisfactory diets can be planned successfully only with the full knowledge of the scientific facts and observations bearing on the same. In the following pages, therefore, an attempt has been made to present in simple language a brief outline of the general principles and considerations that should govern the planning of satisfactory diets.

Dietary Principles

Foods may be broadly classified into cereals, pulses, nuts and oilseeds, vegetables, fruits, milk and milk products and flesh foods. They contain, in general, proteins, fats, carbohydrates, vitamins, mineral salts and water. Most foods contain all these principles but in varying proportions. Certain foods like oils, ghee, etc., contain exclusively fats and others like cane sugar contain exclusively carbohydrates. Depending on the relative abundance of the principles present in a food, it is termed a protein-rich food, a vitamin-rich food, etc.

Proteins, fats and carbohydrates are often termed "proximate principles". They are "burnt" or oxidised in the body to provide the energy for the various activities of life. Together with water, which is also a necessary dietary element, "proximate principles" form the main bulk of foods.

Vitamins and mineral salts do not supply energy but they play an important part in the regulation of several essential functions in the body. In addition, some minerals are important components of the body structures like bones and teeth.

Human beings, like other animals, require sufficient amounts of proximate principles, water, vitamins and minerals, to enable them live and thrive. A well-balanced diet should contain all these factors in correct proportions and in adequate amounts.

In planning dietaries for communities, it is necessary to aim at an adequate well-balanced diet. Such a diet should provide enough food and ensure at least a minimum supply of the essential food factors to maintain the life processes in fair working order.

The enormous amount of research work on human beings and laboratory animals carried out in many countries has provided a sound basis to plan adequate

well-balanced diets. It is now fairly simple to know how much of each food factor is required for good nutrition and what this means in terms of common foodstuffs. Likewise, it is also easy to measure the extent to which diets in common use are adequate for health and to estimate the amounts of the different foodstuffs needed to bring the diet of a given population upto the desired level.

Proteins

Proteins are the chief substances in the cells of the body and form the important constituents of muscles and other tissues and vital fluids like blood. Proteins supply the building material for the body and make good the wear and tear of tissues which is a constant feature of the process of life. This is why foods rich in protein are often called "body building foods". In addition, several substances concerned with vital life processes such as "enzymes" which help digest the food inside our system and "antibodies" which are body defences against infections are mainly protein in nature. Thus, proteins are one of the most important food factors. The sufficiency of protein in a diet is an important measure of its adequacy and quality. Proteins are also oxidised in the body to provide energy, but such use of protein is wasteful since carbohydrates and fats can easily provide energy and fulfil this function but proteins have necessarily to fulfil the other functions essential to life.

Most foodstuffs contain protein, but in widely varying amounts. Animal foods such as meat, fish and eggs are rich in protein; milk can also be considered to be rich in protein if due allowance is made for the large proportion of water present in it. Among the vegetable foods, the pulses and nuts are the richest in protein, often exceeding the amounts present in animal foods. Soyabean is unique in this respect in that it contains over 40 per cent protein. The common cereals such as rice, wheat, barley, etc , contain a fair proportion of protein. Rice contains less protein than wheat, though the protein of rice is of better quality. The outer layers of the cereals are richer in protein than the inner starchy kernel, and when wheat and rice are highly milled, there is thus some loss of protein as well as of other valuable factors, such as vitamins and mineral salts. Leafy and root vegetables and fruits are poor sources of protein. If, however, foods like cereals, admittedly poor sources of protein, are present in abundant amounts in a diet, their contribution to the total protein in the diet is considerable. In recent years, as a result of improvement in food processing techniques the defatted oil seed cakes, which were hitherto considered only as cattle feeds and manures, have been placed at the disposal of human beings for consumption as rich sources of protein.

The total protein content of a diet can be estimated from food value tables. But in addition to the quantity of protein in a diet, the nutritional quality of the proteins also matters in judging the protein value of a diet. Proteins present in various foods differ in their nutritive value on account of a difference in amino-acid composition ; amino-acids are the bricks with which tissue protein is built

and replaced, and the more closely the amino acid make-up of a protein resembles that of the tissues, the greater is its value.

There are about 18 amino acids commonly found in dietary proteins. It is possible for the body itself to get its supply of some of these amino-acids by mutual conversion among the amino-acids. However, an adequate supply of ten amino-acids called "essential amino-acids" which cannot be obtained by the body thus has necessarily to be obtained from the dietary proteins. The quality of a dietary protein is therefore determined largely by the essential amino acids present in these proteins. A good amount of work has been done on the determination of the essential amino-acid content of Indian foods. A table setting out the figures for essential amino acids in some common foodstuffs will be found in Appendix II. It has experimentally been found more than once that the proteins of whole egg are the best among food proteins and hence the pattern of essential amino-acids present in whole egg is taken as a standard against which the relative amounts of essential amino-acids present in other foods used to be compared. More recently, the Food and Agriculture Organization of the United Nations, after a careful consideration of the essential amino-acid content of several first class foods, has proposed a hypothetical ideal pattern of essential amino-acids in foods with which local food proteins can be compared. In Appendix II will be found the amino-acid distribution in this hypothetical "FAO Reference Protein" together with the essential amino-acids in Indian foods. It will be seen from this that proteins of animal foods like milk, meat, fish etc., in general, have a comparable distribution of amino-acids almost resembling the reference protein and hence such food proteins are termed "complete proteins". However, the proteins of some of the important vegetable foods like those of cereals and pulses and nuts and oilseeds are not so balanced enough in their amino-acid patterns. For instance, it will be found that the cereal proteins are poor in the amino-acid lysine while pulse proteins are poor in the amino-acid methionine compared to the reference protein. Such proteins can in other words be called as "incomplete proteins". However, the relative insufficiency in amino acids of particular vegetable foods can be overcome through a judicious combination of vegetable protein foods to provide a desirable pattern of amino-acids almost approaching that of the reference protein. Thus, the proteins of cereals and pulses can have a mutually supplementary effect and deficiencies of amino-acid in one can be made good by an excess in another, if both the types of proteins are consumed at about the same time.

Another factor to be considered in assessing the value of the proteins of a foodstuff is their digestibility. In general, proteins derived from vegetable foods, especially pulses in the uncooked state, are less digestible than animal foods. However, cooking improves digestibility of several foods to some extent.

Thus, it will be seen that the nutritive value of a protein is dependent on its essential amino-acid make-up and its digestibility. The overall value of a protein can be experimentally estimated in the following two ways in laboratory animals like rats :

(*a*) The gain in weight of the animal per unit weight of protein consumed may be measured. The value thus obtained is known as the protein efficiency ratio.

(*b*) The amount of nitrogen in the diet and in the excreta can be measured and the percentage of nitrogen retained by the animal from out of the nitrogen absorbed from the diet can be found out. Expressed in this manner, the figure is known as the biological value of the protein.

Data on the protein efficiency ratio and biological value of a number of dietary proteins is given in Appendix I.

It will be found that, in general, animal proteins are rated higher in the scale of biological values. This only means that as single sources of food, animal foods like milk and egg are better sources of protein than vegetable foods. But diets are usually made up of a mixture of foods and hence it is possible to have the protein supply in a diet much enhanced in value by a judicious combination of proteins even solely of vegetable origin. It has, in fact, been shown that the protein value of cereals can be improved by the addition of pulses and leafy vegetables. The nutritive value of a mixture of proteins is thus not merely the arithmetic mean of the values for the component proteins but something more than either because of the mutual supplementation among the amino-acids.

According to modern concepts, the daily protein needs of an adult are adequately met by a provision in the diet of about one gram of protein per kilogram of body weight. It is to be expected that growing children require, per unit of body weight, more protein than adults, since the new tissue which is being laid down is largely built up of elements drawn from protein. Likewise, the protein needs of women during pregnancy and lactation are also greater than at other times. The protein allowances suggested as a rough guide for practical nutrition in India are given in page 26. It is desirable that in the growing periods and during pregnancy and lactation, some animal proteins in view of their nature as single sources of complete protein are provided in the diet.

The best source of animal protein for growing children is milk derived from the cow or other species of animals. It must be emphasised that skimmed milk is as rich in good protein as whole milk, and buttermilk of good quality is also a useful source. In devising cheap well-balanced diets in India economic considerations often preclude the inclusion of milk or other animal protein in adequate amounts. It may be remembered in this connection that judicious mixture of vegetable foods like cereals and pulses can be cheap and at the same time provide nearly as good an amino-acid pattern as that of the costly animal foods.

Fat

Like protein, fat is a necessary ingredient in a diet. The quantity of fat that should be included in a well-balanced diet, however, is not known with any degree of certainty. It is probably desirable to have a daily intake of about 45 to 60 grams

(1½ to 2 ounces) of fat for an adult. Surveys of diets consumed in different parts of India show that diets of poorer classes are low in fat.

Fat is of value to the body in a number of ways. A diet low in animal fat is often deficient in certain important vitamins of the fat-soluble group, particularly vitamin 'A'. Vitamin 'A' is present only in foods derived from animal origin ; it is not present as such in most of the common vegetable foods. Several vegetable foods, however, contain carotene which can be converted into vitamin 'A' in the body. Animal fats, such as butter or ghee, contain vitamin 'A' but when they are adulterated with vegetable oils which contain neither carotene nor vitamin A, the potency in "vitamin A" of such samples will get reduced. "Vanaspati", now popular in India as a cooking medium does not normally contain vitamins. However, under Government regulations, the vanaspati that is sold in the market contains 700 International Units of added vitamin 'A' per ounce. Most manufacturers add in addition 50 International Units of vitamin 'D' per ounce of vanaspati.

Apart from the oils and fats which are consumed as such and which are for the most part pure fats, the following foodstuffs are among those rich in fat ; oilseeds and nuts, soyabean and avocado pear. Cereals, pulses and vegetables contain fat in extremely small amounts.

Fat is a concentrated source of energy ; as fuel, it supplies per unit weight more than double the energy furnished by either protein or carbohydrate. Some fats provide the so-called "essential fatty acids" to the body. The "essential fatty acids", like vitamins, play a role in several metabolic reactions which are discussed later.

In recent years, there has been a revival of interest in the nutritional aspects of fats in view of their role in affecting the levels of a fatty substance known as cholesterol in the blood. The laying down of excessive amounts of cholesterol under the lining of the blood vessels is believed to be responsible for their narrowing and hardening. When the coronary arteries supplying blood to the heart are thus affected, coronary heart disease results. Extensive observations with population groups have shown that consumption of fat in levels supplying more than 15 per cent of the calories in the diet may result in an increase in blood cholesterol ; while this may be true with persons leading a sedentary life, physical activity and vigorous exercise as in the case of army sepoys etc., appear to help persons to tolerate higher levels of fat in the diet without much increase in the blood cholesterol. Apart from the quantity of fat, the quality of fat consumed in the diet also determines blood cholesterol levels. Some fats like groundnut oil, sesame oil or safflower oil which contain a high proportion of what are called unsaturated fatty acids do not increase blood cholesterol levels significantly even when consumed in large quantities. On the other hand, certain fats like butter, ghee, coconut oil and hydrogenated vegetable fats like vanaspati which contain a high proportion of saturated fatty acids have been shown to cause considerable elevation in the levels

of blood cholesterol, when consumed in large amounts. In the process of hydrogenation of groundnut oil or cottonseed oil, a good part of the unsaturated fatty acids get converted to the saturated type. The addition of 'unsaturated fats' like gingelly oil or safflower oil to a saturated fat diet can help to minimise the effects of the latter in raising the blood cholesterol, especially when consumed simultaneously. A table showing the "unsaturated fatty acid" content of Indian dietary fats is given in Appendix III.

Thus it will be apparent that in considering the fat requirements, it appears desirable in the present state of knowledge to have an amount which contributes not more than 15 per cent of the calories ($1\frac{1}{2}$ to 2 ounces) in the diet, a considerable portion of which is derived preferably from vegetable oils.

Carbohydrates

Carbohydrates are a class of substances which include glucose, cane sugar, milk-sugar, starch, etc. They form the main source of energy to the body. Grain foods are largely composed of starch ; cane sugar and glucose are hundred per cent carbohydrates. As the cheapest available sources of energy, carbohydrates form a necessary part of diets, but when, as is common in India, they are present in excessive amounts, the diet becomes ill-balanced.

Besides easily digestible carbohydrates, some foods contain a certain type of carbohydrates called "fibre" or roughage. Consisting mainly of cellulose or hemi-cellulose, the fibre is not digested by the digestive juices in the humans and are voided as such. Thus, though contributing little to the nutritive value of foods the presence of roughage in the diet as a whole is favourable to the mechanics of digestion. The contraction of the muscular walls of the digestive organs is stimulated by the fibre and the tendency to constipation is counteracted. There is comparatively little roughage in cereals, root vegetables, nuts and oilseeds and flesh foods ; vegetables, particularly the leafy ones, fruits and condiments and spices are comparatively richer in this respect.

In working out diet schedules, the requirements of protein, fat, vitamins and minerals should be first attended to ; subsequently, carbohydrate-rich foods can be included in sufficient amounts to meet the energy needs.

Energy requirements

The consideration of the energy-yielding principles—proteins, fats and carbohydrates—in the preceding pages naturally leads us to the question of energy requirements. It is well known that even when the body is at rest, it expends a certain amount of energy for essential functions such as respiration, circulation, excretion, maintenance of body temperature, etc. The amount of energy thus expended when the body is at complete rest (both mentally and physically) is termed Basal Metabolism. Age, sex, height, weight and state of nutrition of an individual are some of the factors which influence it. The basal metabolism for a

given age, sex and size is taken as the starting-point for the calculation of the total energy requirement of individuals. Manual work, light or heavy, calls for an additional supply of energy. The energy needed for both basal metabolism and for muscular activity will have to be supplied through food.

In drawing up new diet schedules or in assessing the value of existing ones, the question is often posed whether greater importance should be attached to the question of quantity or quality. Naturally, ensuring both is obviously the most desirable. But where a priority is inevitable, the question of "enough food" should take precedence over quality and other considerations. It is comparatively easy to decide the question whether enough is being provided. In the absence of enough food, complaints of hunger can reasonably be expected. Unfortunately, experience has shown that human beings can adapt themselves, at a low level of vitality and with their powers impaired to an insufficient ration, and scarcely realise that they are underfed. The nutrition worker, in setting up standards of food requirements, ignores and justifiably too, the remarkable faculty of the body to adapt itself to mild degrees of starvation. He aims at not mere survival but positive health with all the faculties at a high level of working capacity.

Quantitative food requirements are usually estimated in terms of heat units—calories. A calorie is the unit of heat necessary to raise the temperature of one kilogram of water by one degree centigrade. This physiological heat unit is different from the physical heat unit which is one-thousandth of the physiological calorie. Wherever calorie is mentioned in this Bulletin, it is only the physiological or the larger calorie that is referred to. The energy value of a foodstuff can be determined by employing a complicated Bomb Calorimeter or more easily calculated from the figures for protein, fat and carbohydrate and multiplication by the appropriate factors. One gram of carbohydrate or protein yields about 4 calories while one gram of fat yields about 9 calories. This is the basis of calculation employed in arriving at the calorific value given in the Tables at the end.

As pointed out earlier, the total energy requirement of an individual is made up of two main components—(a) the basal energy required for such vital functions as respiration, circulation, etc., and (b) the energy required for the actual occupation of the individual. The first component is nearly the same for all individuals. It is the latter component that varies and depends on the type of occupation of the individual. Based on actual measurements in individuals, it has been found for instance that writing, typing, etc. may be classified as light work, walking, shoe-making, etc., as moderate work, and carrying heavy loads, wood-cutting, stone-cutting, etc., as heavy work.

The actual calorie allowances for Indians as adopted by the Nutrition Advisory Committee are set out in the Table on page 26.

In practical nutrition work involving the assessment of the calorie needs of groups of persons, it is usual to assess the needs of women and children in terms of those of the average man, various coefficients being applied to the different age and sex groups. The following scale of coefficients may be considered accurate enough for practical nutrition work in India. Calorie requirements of infants are dealt with

	Coefficient
Adult male	1·0
Adult female	0·9
Adolescents 12 to 21 years	1·0
Children 9 to 12 years	0·8
Children 7 to 9 years	0·7
Children 5 to 7 years	0·6
Children 3 to 5 years	0·5
Children 1 to 3 years	0·4

on page 40. It must be emphasised that this scale of coefficients is a somewhat arbitrary one and concerns only calories. It is not meant to be applied in assessing the needs for other nutrients since there is no justification for such a procedure.

The requirements of a woman have been marked lower as compared to those of a man of corresponding age. During pregnancy and lactation, however, the needs of a woman may equal or even exceed those of a man because of the additional need to nourish the child in the womb or at breast (see also page 26).

With the help of the tables at the end of this Bulletin the calorie content of diets can be worked out and compared with requirements as suggested ; or diet schedules yielding approximately the right amount of calories can be constructed. In dealing with a group of mixed age and sex composition, the number of "consumption units" in the group or its "adult man value" is first calculated. To illustrate by a simple example : A famliy consisting of father, mother and three children aged 10, 8 and 6 respectively has an "adult manvalue" on the above scale of 1·0+0·9+0·8+0·7+0·6 or 4·0 and its minimum daily calorie requirement would be 2,400×4 or 9,600 calories. If it is necessary to draw up a diet schedule for the family, food supplying roughly 9,600 calories should be included in the schedule. If analysis of the existing diet of the family indicates that the total intake per day is below this level, attempts should be made to make good the deficiency.

Sound commonsense must be exercised in drawing up either new diet schedules, or in assessing the adequacy of existing ones. It is safer to err on the side of excess by 100 or 200 calories to allow for waste of all kinds including the inevitable "leakage" of food which occurs in large institutions. Standards of calorie requirements are applicable only to reasonably large numbers and not to

individuals. The relation between calorie requirements and such factors as work, activity, age and climate (the hotter the climate, the less being the calorie required) should be borne in mind.

Vitamins

Vitamins are organic compounds present in minute amounts usually in fresh natural foodstuffs. The vitamins are essential for health and well-being and are needed in very small amounts ; they are considered to function as important links in several vital life processes. They are commonly named by the letters of the alphabet ; they are also referred to by the major functions they perform like, anti-xerophthalmic, anti-beriberi, anti-scorbutic, anti-rachitic vitamins. They are broadly divided into two groups based on their solubility—water-soluble and fat-soluble. Vitamins A, D, E and K belong to the fat-soluble group and vitamins of the B complex and vitamin C to the group of water-soluble vitamins. In the brief treatment of vitamins in the succeeding pages, the alphabetical order is followed and not the classification based on their solubility.

Vitamin A

Vitamin A is necessary to keep the several epithelial tissues in the body intact. In its absence, especially the outer layers of the eye ball lose their usual moistness and become dry and wrinkled. Redness, inflammation and loss of vision may follow. The central portion of the eye may lose its transparency and become opaque and soft. If not treated in time, this may lead to total blindness. Vitamin A is also necessary to enable clear vision in dim light. Vitamin A deficiency affects the functions of the epithelial tissues and thus lowers the resistance of the body to infection.

The vitamin is present in some animal foods like butter and ghee, whole milk, curds, egg-yolk, liver, fish etc. The liver oils of certain fish, like cod, halibut, shark and saw-fish are some of the richest known natural sources of the vitamin. In the vegetable kingdom, vitamin 'A' is not present as such but in the form of certain pigments called carotenes which are converted into vitamin 'A' in the body. The word carotene, has its origin in the fact that the pigment was first isolated from carrots. Vegetable foods possess vitamin 'A' activity because of the carotenes contained in them and hence carotenes are also known as pro-vitamin A. The chemical structure of the most widely distributed carotene, β carotene, is such that it can yield twice its amount of vitamin A. But in practice, this does not happen. While vitamin A as such is easily assimilable, carotene is less completely absorbed. The utilisation of carotene from the diet depends on a number of factors. For instance, depending on the fat content of the diet, the absorption of carotene has been reported to vary from 25-50 per cent. Since most of the vitamin A requirement of Indians is met from vegetable sources, it is usual to recommend a larger allowance of vitamin A in such diets to account for the partial physiological availability of vitamins from such diets. Leafy vegetables, such as spinach,

amaranth leaves, coriander leaves, drumstick leaves, curry leaves, mint, radish leaves etc., as well as ripe fruits such as mangoes, papaya, tomatoes and oranges are rich in carotene. Among other vegetables, carrots and yellow pumpkin are good sources. The outer dark-green leaves of cabbage are rich in carotene while the inner white leaves are poor in the vitamin.

It may be mentioned that the daily requirements of an adult are in the neighbourhood of 3,000-4,000 International Units of vitamin A derived either from foods of animal or of vegetable origin. The requirements are greater in pregnancy and lactation and for growing children. Animal foods rich in vitamin A are many times more expensive. The easiest and cheapest way of ensuring a sufficiency of vitamin A is to increase the intake of green leafy vegetables. Three to four ounces a day of the common leafy vegetables will furnish more than an adult's requirements of this vitamin. The needs of children can also be covered in the same way. But in the case of infants and young children and sickly and malnourished children of all ages, who cannot properly digest the fibrous leafy vegetables, it is advisable to supply vitamin A from foods in which it is present as such, such as butter, liver, egg, etc. In addition, vitamin A can be better given in the form of a daily dose of cod or shark liver oil or medicinal concentrates manufactured from such fish liver oils. Field investigations in India have shown that vitamin A deficiency is one of the major factors responsible for a large number of nutritional deficiency diseases and that the intake of cod or shark liver oil increases the nutritive value of the average Indian diet.

It is relevant at this stage to say a few words about the shark liver oil industry in India. In the past, the only source of vitamin A for treatment of deficiency cases were the Norwegian cod liver oil and concentrates manufactured from halibut liver oil. During the Second World War, imports of cod liver oil were completely stopped. The country was fortunate to find alternative sources in the liver oils of the shark and saw-fish that abound in the Indian coastal waters. The alternative was found to be even more potent in vitamin A than the imported cod liver oil. The attainment of independence provided the much-needed opportunity for the Indian shark liver oil industry to thrive and flourish. It is somewhat strange that the shark and saw-fish are found extensively in the coastal waters of the Arabian Sea and the Indian Ocean, while they are somewhat rare along the eastern coast. In most hospitals and boarding schools in India, fish liver oil preparations derived from the shark and the saw-fish are being extensively supplied as a supplement. It may be of interest to mention in this connection that the fish liver oils given in welfare centres to infants and pregnant and nursing women is only a part of the nutritional care of such segments of the population; adequate intake of other nutritious foods, wherever possible, is necessary in addition to this and this fact must be explained and brought home to the beneficiaries by those who are in charge of such welfare centres.

In addition to the natural source of vitamin A, the vitamin has also been

obtained as a synthetic product. A factory for the production of synthetic vitamin A from Indian lemongrass oil has recently been established in the country and the synthetic product has found large use in therapy and in meeting the needs of the food fortification industry.

The vitamin A activity of any given foodstuff is variable, depending on a number of factors. The vitamin A potency of milk or butter, for example, depends on the carotene content of the grass which the cow eats. It has been observed in Europe that "summer milk", obtained from cows fed on succulent green grass rich in carotene, contains more vitamin A than "winter milk". The vitamin A content of different samples of butter may vary from 600 to 6,000 International Units or more per 100 grams. In the manufacture of ghee from butter by the usual methods adopted in Indian homes, some 25 per cent of the vitamin A originally present may be destroyed. Prolonged heating of ghee in an open pan causes serious destruction of vitamin A. Cow ghee is richer in vitamin A than buffalo ghee. While buffalo ghee is practically devoid of carotene but contains only preformed vitamin A, cow ghee contains fair amounts of carotene as well as vitamin A; this is the cause of the slightly yellowish colour of cow ghee. Of the total vitamin A activity in cow ghee, carotene may contribute about a third. Genuine cow ghee may contain about 20-25 International Units of vitamin A activity per gram while buffalo ghee contains about 8 to 10 International Units per gram.

Vitamin A is somewhat more stable than carotene. Light, particularly the ultraviolet rays and air have a destructive influence on the vitamin. A rough indication of the carotene content of leafy vegetables is their greenness. Green and fresh vegetables contain invariably more carotene than stale ones. Ordinary cooking of vegetables causes only negligible losses in carotene content. Though single values for vitamin A and carotene are given in the Tables, it must be remembered that the figures extend over a wide range. The figure given lies midway between the two extremes and is a rough guide to the vitamin content. It may generally be assumed that most green leafy vegetables are richly endowed with carotene while other vegetables, cereals, pulses, etc., are less important sources of carotene. Most ripe fruits are fairly rich in carotene.

Vitamin A deficiency is very common in India, forming about a quarter of the nutritional deficiencies prevalent in the country. One of the important causes of preventable blindness in India is chronic shortage of vitamin A in the diet especially of growing children. Care must be taken to ensure an adequate supply of the vitamin in the diet.

The B Vitamins

A whole group of vitamins is included under this head but only those members whose importance in human nutrition has been established will be discussed in these paragraphs.

Thiamine.—Vitamin B_1 or "thiamine" as it is more often referred to now, was formerly known also as the "anti-beriberi" or "anti-neuritic" vitamin. It is

an important member of the B group of vitamins and the first of the vitamins to be discovered. Prolonged deficiency of the vitamin in the diet of the humans is one of the main factors in the causation of the disease called beri-beri. The disease may have one of two forms : in "dry beri-beri", there is a loss of appetite, paralysis of the legs and hands and a dropping of the feet; in "wet beri-beri", there is dropsy, palpitation and breathlessness and weakness of heart muscle leading to heart failure. Physiologically, thiamine is concerned with the proper utilisation of carbohydrates in the body ; in the absence of adequate amounts of thiamine, full utilisation of sugar and starches for energy needs is adversely affected.

Yeast and the outer layers of cereals, like those of rice and wheat removed on milling have a high thiamine content. Among ordinary foods the richest sources of thiamine are unmilled cereals, pulses and nuts, particularly groundnut. Meat, fish, eggs, vegetables, fruits and milk are relatively poor in the vitamin. A diet largely composed of raw milled rice contains insufficient thiamine and may cause beri-beri, which used to be common in certain parts of India such as the coastal districts of Andhra Pradesh. The main diet consumed in these areas used to consist of highly polished rice but in recent years the incidence does not appear to be so widespread, probably on account of government restrictions on the extent of milling rice.

A rice grain consists of three principal parts : (*a*) germ, (*b*) pericarp or outer layer, and (*c*) endosperm or inner layer. The thiamine is present mostly in the germ and outer layers. When paddy is milled, these parts of the rice grain along with the bran and the husk get removed. The highly polished white rice which is obtained is pleasing both to the eye and to the palate but contains negligible amounts of thiamine. In the preparation of hand-pounded rice, the removal of the bran and the outer layers is not complete and hence a certain portion of these is still left in the grain ; but such rice suffers from poor keeping quality. In the process of parboiling, the paddy is subjected to steaming under slight pressure till the husk splits and the resulting product is then dried and milled. In this case, thiamine and other nutritious elements present in the outer layers and germ diffuse through the entire mass of the grain with the result that the parboiled grain, even if subjected to milling later like the raw rice, does not lose so much thiamine in the layers that get removed. Thus parboiled rice, even when highly milled, usually contains enough thiamine to prevent beri-beri and is hence superior to raw milled rice in nutritive value. The parboiled rice of commerce used to be not so well liked, formerly, on account of offensive odours and unpleasant colour. This is because the methods used in parboiling the rice were not refined. However, recent researches in food technology have shown the best ways of parboiling rice on a commercial scale to obtain a pleasant product without bad odour. It is to be hoped that the use of parboiled rice in an increasing measure will be resorted to in future by populations that subsist mainly on rice.

Washing and cooking of rice cause considerable loss of thiamine, nicotinic acid (another B vitamin), phosphorus and other important dietary constituents.

This loss is greater in raw than in parboiled rice, for reasons mentioned above. Rice which is mouldy and weevil-infested is likely to be subjected to greater washing. Such poor quality rice is often consumed by the very poor whose diet contains only small quantities of foods other than rice and who are in the greatest need of the elements lost in washing. It is the first washing that causes most of the loss, so that there is not much to be gained by reducing the number of washings. The cooking of rice may cause further losses if too much water is used and the excess cooking water thrown away.

The thiamine requirements of an individual depend on a number of factors, chiefly the composition of the diet. Since thiamine is essentially concerned in the utilisation of carbohydrates, the need for thiamine is increased when the proportion of carbohydrate in the diet is larger as happens with most Indian diets. Conversely, fat is reported to have a thiamine-sparing action and reduces the need for the vitamin. Heavy work and strenuous exercise and also physiological stresses like pregnancy and lactation increase the thiamine needs. While the thiamine requirements of infants and children have not been carefully evaluated with enough experimental support, the thiamine needs of school children and adults living on ordinary diets in normal circumstances may be roughly placed at about 330 International Units or one milligram a day. In recent years, the requirement has been expressed in terms of caloric intake, as about 0·5 mg. of the vitamin per every 1,000 calories of intake, subject to a minimum of one milligram per day. It is not difficult to ensure that a diet contains enough thiamine. Diets based on whole wheat, any of the millets, raw home-pounded rice or parboiled rice (home-pounded or machine-milled) usually supply thiamine in sufficient amounts. The greatest danger of thiamine deficiency arises when highly milled raw rice is consumed as the main ingredient in a diet with practically negligible amounts of other foods such as pulses. Even with a diet based on raw milled rice, beri-beri and other manifestations of thiamine deficiency can be avoided if 3 ozs. or thereabouts of pulses are taken daily. The smaller the supply of non-cereal foods, the more important it becomes to avoid a preponderance of milled raw rice in the diet. An easy and effective means of preventing thiamine deficiency is to have recourse either to parboiled rice or undermilled raw rice or to partial replacement of the highly milled raw rice by any of the millets to the extent of about 4 ounces.

It may be of interest to mention in this connection that recent investigations on the composition of human milk in some rice-eating areas in the country have shown that the thiamine content of such milk is poor compared to that of milks in foreign countries. Supplementation of the mother's diet with the vitamin brings about an increase of the concentration of the vitamin in the milk also. Thus the deficiency of thiamine in the diet affects not only the adults but may have repercussions also in the nutrition of the infant which is breast-fed.

B_2 *Complex vitamins.*—Besides thiamine, there are several other members of the B group of vitamins which are referred to as "B_2 complex". They include

nicotinic acid (niacin), riboflavin, pantothenic acid, pyridoxin, folic acid, vitamin B_{12}, choline, inositol, etc. Recent investigations have shown that some of them are of great importance in human nutrition while others are of importance in animal, poultry and microbial nutrition. The deficiencies of some of these vitamins frequently overlap. Hence, in clinical practice, it is customary to treat cases presenting one or more of these deficiencies with a mixture of the B complex vitamins, In considering the effects of individual vitamins, given below, it is better to remember the combined role of all these vitamins in such deficiency symptoms.

Riboflavin.—Soreness of the angles of the mouth, redness of the eyes, burning sensation in the eyes and scaliness of the skin in the region between nose and the angles of the lips are some of the symptoms usually attributed to an inadequate supply of this vitamin in the diet. Riboflavin is concerned with several oxidation processes inside the cell. Good sources of the vitamin are milk products (including skimmed milk, butter milk, curds, cheese and whey), eggs and liver. Green leafy vegetables and pulses are fair sources. The requirement of the vitamin appears to be influenced by the level of protein in the diet and has not been determined with any certainty. The figure usually reported is around 1·5 mg. per day and there is good evidence that poor Indian diets, which contain little milk or meat, are often very deficient in riboflavin.

Nicotinic acid.—Nicotinic acid or niacin is a vitamin intimately concerned in several metabolic reactions. Lack of the vitamin in the diet causes a disease known as pellagra which is characterised by the presence of a red sore tongue, pigmented scaly skin and diarrhoea. The dermatitis appears most often over areas of irritation, such as the back of the hands and generally it is symmetrically distributed in the body. The amino-acid, tryptophan, found in most good quality proteins has been found to be capable of meeting the nicotinic acid requirements to a certain extent. In foreign countries such as America and Mexico where maize was consumed as the main cereal, with no other adequate supplements, pellagra used to be observed. It may be mentioned here that maize is poor in nicotinic acid as well as tryptophan ; further, part of the nicotinic acid present in maize is not easily available physiologically. In India also in areas where jowar (Sorghum vulgare) is the main cereal consumed, a type of pellagra has been observed.

Whole cereals, pulses, nuts and meat are good sources of nicotinic acid. Milk is also effective in preventing pellagra because of its richness in tryptophan. The requirements for the vitamin have been placed around 10 mg. per day in diets which are otherwise adequate in respect of tryptophan also.

Vitamin B_6.—This vitamin exists in three forms, pyridoxal, pyridoxamine, and pyridoxine, which are mutually interchangeable in human nutrition.

Some important metabolic functions have been ascribed to this vitamin. Thus, it has been shown that the conversion of tryptophan to nicotinic acid in the body described earlier requires this vitamin. In rats and other animals, deficiency of this vitamin has resulted in conditions like dermatitis, anaemia, etc. The need for

the vitamin in humans appears to be fairly established. Inadequate supply of the vitamin in the case of infants has been reported to cause convulsions. This vitamin is also associated with the metabolism of essential fatty acids in the body.

There are very few figures for the content of this vitamin in foods and the available information is given in the Table at the end. In general, meat, liver, vegetables and bran of cereal grains are reported to be good sources.

Pantothenic acid.—The human requirement for this vitamin has not been clearly defined but it is reported to be of value in curing a syndrome characterised by "burning feet" and sore tongue. It appears to be widely distributed in all foods.

Folic acid.—This vitamin is reported to have beneficial effects in curing certain types of anaemia, observed especially in infants and in pregnant women subsisting on ill-balanced diets. Fresh green vegetables, liver and pulses are good sources of the vitamin. The actual requirements for the vitamin have not been defined with certainty. In treating anaemias which respond to this vitamin, about 5 mg. per day may be needed. In normal persons, the requirement is much less.

Vitamin B_{12}.—This vitamin appears to be present only in animal foods like milk, meat and liver. However, in the case of people subsisting on vegetable foods, the vitamin is probably synthesised in the body by the action of bacteria residing in the intestines on the food residues ; the requirement also appears to be very small only. This vitamin contains the element, cobalt, in its molecule. It is prepared commercially as a by-product of the antibiotic drug industry and with the growth of the antibiotic industry in the country, it can be expected that the production of this vitamin will also increase. Vitamin B_{12} is effective in the treatment of pernicious anaemia.

The requirement of the minor B vitamins like pyridoxine, pantothenic acid, folic acid and B_{12} are not known with any degree of certainty. Probably, the requirements are small and are adequately met if the diet is fairly satisfactory in other B vitamins.

Vitamin C

Vitamin C or ascorbic acid is the vitamin that prevents scurvy. It is usually found in fresh fruits and vegetables, particularly the green leafy varieties. Of all the vitamins, vitamin C is the one vitamin that is most easily susceptible to destruction by atmospheric oxidation. One of its characteristic properties is its intense reducing action and hence the tendency to rapidly oxidise in air. It is for this reason that when vegetables get dry and stale, most of the vitamin C originally present is destroyed.

Fresh meat and milk contain a little vitamin C. Pulses and cereal grains in the dry state do not normally contain vitamin C. When, however, they are allowed to sprout or germinate, the vitamin is formed in the grain and in the growing sprouts. About 85 per cent of the vitamin is present in the grain and only 15 per cent in the shoot. Sprouting is a process wherein the grains are, after a preliminary soaking in water for about 24 hours, spread out on damp earth or damp blanket and

covered over with a moist cloth. In 2 or 3 days, the grains will have germinated with half to three quarters of an inch of sprout. The germinated grain should be consumed either raw or after cooking for a minimum period. Usually during prolonged drought and consequent famine, scurvy is about the first deficiency disease to make its appearance. It would be difficult to provide adequate amounts of fruits and fresh vegetables in such areas. Sprouted grains may be used then as a cheap and easily available source of vitamin C. The one commonly employed is sprouted Bengal gram (Cicer arietinum). Its efficacy in preventing scurvy has been more than once demonstrated in famine areas in India. Sprouted Bengal gram is by no means the best source of vitamin C among sprouted grains ; sprouted mung (*Phaseolus radiatus*) or green gram is about three times more potent in vitamin C than sprouted Bengal gram.

There is one very cheap and common fruit, namely, amla or nellikai (*Phyllanthus emblica, Linn*), which is very rich in vitamin C—indeed, it is one of the richest natural sources of the vitamin. Amla grows abundantly in all Indian forests and is obtainable in almost unlimited quantities from January to April. The fresh juice contains nearly twenty times as much vitamin C as orange juice, and a single fruit is equivalent in vitamin C content to one or two oranges.

The heating or drying of fresh fruits or vegetables usually leads to the destruction of most or all of the vitamin C originally present. Amla is exceptional among fruits because of its very high initial vitamin C content, because it contains substances which partially protect the vitamin from destruction on heating and drying, and because its juice is very strongly acid. Acidity has a protective action on vitamin C. Hence it is possible to have amla preparations potent in vitamin C.

Scurvy is the drastic consequence of prolonged vitamin C deficiency. Now-a-days the extreme manifestations of such total deficiency are rarely encountered, but there are many "prescorbutic" or "sub-clinical" conditions for which a partial deficiency of vitamin C is held responsible. Bleeding gums and mucous membranes, minor haemorrhages, retarded wound-healing etc., are manifestations of such localised partial deficiency. Vitamin C appears to be necessary for the proper calcification of bones and teeth.

A well-balanced diet for school children and adults should contain some 30 to 50 mgs. of vitamin C per day. Vitamin C is sensitive to heat, and loss occurs on cooking, particularly if cooking is prolonged. Nevertheless, the inclusion of a few ounces of fresh fruits and leafy and other vegetables in a diet will ensure that its vitamin C content is satisfactory. In the case of infants fed on boiled fresh milk or reconstituted dried milk, special attention to vitamin C requirements is necessary. These can be met by giving fruit juice in small quantities.

Vitamin D

Vitamin D, the vitamin which prevents rickets and osteomalacia, is found in liver and liver oils, egg yolk, and in milk and milk fat (*e.g.* ghee) obtained from animals fed on green pastures and exposed to sunlight. Fish liver oil is its richest natural source. Rickets and osteomalacia are both serious diseases,

the former affecting children and the latter adults, mainly women. They cause deformities of bones, often gross deformities, because the deposition of lime salts in the bones, a process in which vitamin D plays an important part, does not proceed normally in the absence of vitamin D.

Vitamin D is also formed in the skin by the action of sunlight which transforms a substance normally present there—a 'precursor' of vitamin D—into vitamin D itself. Hence rickets is particularly apt to occur in infants living in dark houses ; osteomalacia used to be found frequently in the North among women observing purdah. Probably minor degrees of rickets are more common in infants and young children throughout India than is generally believed. Often the cheapest way of obtaining this vitamin is by exposure of the body to sunlight. Medicinal preparations of vitamin D cost money. The sun is free. There is a close connection between vitamin D and calcium and phosphorus metabolism. When little vitamin D is obtained, and at the same time insufficient calcium is present in the diet, the danger of rickets and osteomalacia is increased. This is an additional reason why attention must be given to calcium intake. Osteomalacia, manifesting itself in the first instance by pain in the bones, usually starts during pregnancy, when demands for calcium are raised because of the needs of the growing foetus in the womb. After the child is born the disease may regress for a time, but it tends to recur in more severe form in succeeding pregnancies. Ultimately, the bones of the unfortunate victim may become so bent that she is unable to stand upright, and distortion of the pelvis may make it impossible for childbirth to take place normally. A good supply of this vitamin during pregnancy benefits the mother and helps to ensure the satisfactory future development of the child.

Shark and saw-fish liver oils usually contain a little more vitamin D than cod liver oil. If, however, groundnut oil, which contains no vitamin D, is added to the former to produce a preparation equivalent to cod liver oil in vitamin A content, the amount of vitamin D in the mixture may be below that normally present in cod liver oil. It is, however, easy to bring substitutes up to cod liver oil standard as regards vitamin D by the addition of pure vitamin D ("calciferol") in suitable quantities. Calciferol and preparations containing calciferol can be manufactured and because of their high anti-rachitic potency, are of great value in the treatment of rickets and osteomalacia. Calciferol is synthetic vitamin D and differs somewhat in chemical structure and composition from natural vitamin D obtained from foodstuffs or by the exposure of the skin to sunlight. In human nutrition, both (synthetic and natural vitamin D) exert a like action. About 400 to 800 International Units are stated to be the requirements of a child. The requirements for adults may be less, but not known with any degree of certainty. One gram of the vitamin contains 40,000,000 International Units ; it is easily apparent what small quantities are needed. Common foods of vegetable origin do not contain vitamin D ; among other foods butter, milk, liver and eggs are fair sources of the vitamin.

Specific needs for the other vitamins like vitamin E and K for the humans have not been established. Vitamin E possesses antioxidant properties and is

believed to have a role in preventing the oxidation of carotene and vitamin A in the digestive tract and also in keeping the rate of oxidation of foods inside the body on an even keel. Vitamin K is necessary for proper clotting of blood and preventing bleeding and has been found especially useful in treating bleeding in new-born babies. Vitamin E is widely distributed in foods, especially in the oils of germs of cereals and in other vegetable oils. Vitamin K is found in green leafy vegetables. Besides these there are several other factors which have been claimed to possess vitamin activity. These are not sufficiently important in practical nutrition and hence are not discussed.

In Part III of the Tables at the end, available information on the vitamin content of Indian foods is presented.

Mineral Salts

There is a large number of mineral elements that are present in the human body. Bones and teeth contain for the large part calcium, magnesium and phosphorus; blood contains iron. It is estimated that an average man excretes daily about 20 to 30 grams of mineral salts, consisting mostly of chlorides, sulphates and phosphates of sodium, potassium, magnesium, and calcium. This output must be made good by intake; in the case of the growing body, provision must be made for additional amounts necessary for storage as a constituent of the newly laid tissues. The mineral salts, needed for the body, are ingested through food-stuffs. Of these, the salts of calcium, iron and phosphorus play a prominent role in nutrition, It is probable that these are the elements which are most likely to be insufficiently supplied by average human diets and hence in the analysis of foodstuffs attention used to be directed to only these three mineral elements, viz. calcium, phosphorus and iron. Several other elements such as copper, magnesium, sodium, potassium, chloride, sulphur, etc., have also important roles in nutrition and hence a brief mention is made here about these and available data on the content of these minerals in Indian foods are presented in Part II of the Tables. Besides these, there are certain constituents in foods such as oxalic acid and phytin which influence the utilisation of other nutrients. Information regarding these also is presented in the Tables.

In general, it may be assumed for practical purposes that if the diet is reasonably varied and well-balanced with respect to proteins, fats, carbohydrate and vitamins, it will supply enough of the mineral requirements.

Calcium.—As stated already, the bones and teeth are made up principally of calcium salts and hence calcium is necessarily required as a building material for building strong bones and teeth. Calcium has many other functions as well. Without calcium the heart would not beat properly, the muscles would not contract to make the limbs move and the blood would not clot. In fact, calcium is an essential element for several life processes.

Calcium is found abundantly in milk (including skimmed milk and butter-milk), cheese and green leafy vegetables. Of the leafy vegetables, amaranth, fenugreek and drumstick leaves are particularly rich in calcium and among the root vegetables, tapioca is a good source. Cereals which constitute a major portion of the average Indian diet contain fair amounts of this element. The millet, ragi, is a particularly rich source of calcium. Rice is an exception in that it is extremely deficient in calcium and there is evidence that insufficiency of calcium is one of the most important defects of the rice eater's diet. Children need relatively more calcium and other minerals than adults, to meet the needs of the growing bones. Expectant and nursing mothers require a large intake of calcium. A healthy breast-fed baby of three months contains a great deal of calcium in its bones, all of which has been drawn from its mother's blood and milk. If the mother's diet during this period were deficient in calcium, then the calcium present in her bones is drawn upon, and her health and probably that of the child will suffer. Since there is this enormous drain of calcium during pregnancy and lactation, adequate supplies are essential. A large intake of milk and green leafy vegetables is, therefore, recommended during this period.

The usual text book figures for calcium requirements are 0·68 g. a day for adults and 1·0 g. for children. These figures allow a fairly wide "margin of safety". In recent years, the availability of more information on the retention of calcium by the human body at different levels of intake has suggested the desirability of a downward revision of this figure. However, the standard fixed by the Nutrition Advisory Committee of the Indian Council of Medical Research of 1·0 g. per day is perhaps not too much on the high side, if allowance is made for the fact that a part of the calcium in our dietaries based on cereals is apt to be unavailable because of the high content of phytin in these dietaries, which is known to interfere with the absorption of calcium; likewise part of the calcium present in some leafy vegetables and oilseed cakes like gingelly cake may not be available due to association with oxalic acid. Indian diets, particularly the ones based on milled rice, may often supply 0·2 g. or less of calcium, daily. This intake is definitely too small and needs augmentation. The habit of chewing betel leaves smeared with slaked lime (calcium hydroxide) which is fairly common throughout India and particularly among the poorer classes, increases the intake of calcium. Calcium ingested in this manner is utilised by the human body. The habit of expectant and nursing mothers in India, especially among the poorer groups of population, of resorting to betel chewing about half a dozen times or more in a day may thus have some scientific sanction.

Certain foods, though rich in calcium, are also rich at the same time in oxalates. These oxalates combine with calcium and form insoluble calcium oxalate and thus render the calcium unavailable to the body. Notably rhubarb, spinach and amaranth are rich in oxalates. Tea, coffee and cocoa are also rich in oxalates but very small amounts of oxalates pass into the infusion. The number of oxalate-rich foods are fortunately few but it must be remembered that some calcium-rich

leafy vegetables are also rich in oxalates. Data on the oxalic acid content of the few foods on which analysis is available are included in the tables.

Phosphorus.—Next in importance to calcium is phosphorus. The utilisation of calcium in the body is closley related with that of phosphorus ; most of the calcium is deposited in the body either in the bones or teeth as calcium phosphate. Phosphorus also plays an essential role in the assimilation of carbohydrates and fats.

It is usually stated that about one gram or more of phosphorus should be supplied in the diet daily.

Cereals and pulses are fairly rich in phosphorus. Rice, unlike in its calcium content, is fairly rich in phosphorus. Considerable loss of phosphorus occurs during the washing, an invariable practice with housewives, and cooking of rice. Nuts and oilseeds are as rich in this element as cereals and pulses. A large part of the phosphorus present in cereals, pulses and nuts is in combination as phytin : 40-60 per cent of phytin phosphorus is not available to the human body. Further, phytin phosphorus interferes with the absorption of dietary calcium and iron. Data on the amount of phytin phosphorus in several foods will be found in the Tables. Milk contains more calcium than phosphorus. But its phosphorus content is not inconsiderable. Phosphorus deficiency is rarely encountered in diet surveys in India—this is because the diets consumed by the poorer section of the population are predominantly based on cereals. Ensuring adequate supplies of calcium is a more difficult task than ensuring an adequacy of phosphorus in Indian diets.

Iron.—The amount of iron present in the body is small, but it has a very important function to perform. Haemoglobin, the red pigment of blood, a most important substance which transports oxygen from the lungs to the tissues and carbon dioxide from the tissues to the lungs, contains iron as an essential constituent. Iron is essential for blood formation. When destruction and loss of blood corpuscles take place as in chronic malaria or hookworm infection, iron requirements are increased. Likewise, women require more iron to make up for menstrual losses and losses during childbirth. During the later half of pregnancy, a store of iron has to be built up in the foetus and hence pregnant women at this stage need more iron.

A well balanced diet for growing child or an adult should contain about 20 to 30 mgs. of iron. This figure gives a fairly wide "margin of safety" and allows for possible regional variation in the iron content of foods. Further, the opinion is held by some workers that only iron in a certain type of form is available to the body and not the whole of it. It is believed that iron in such "available" form is better assimilated than the iron in other forms. For instance, a fairly high percentage of the iron in cereals, pulses and meat, is "available" while a lower percentage of iron in vegetables is "available". Further, food iron may be rendered unavailable to the body if there is excess phosphorus or phytin (see under phosphorus) in the diet with which the iron enters into a non-assimilable combination.

The views regarding availability of iron in certain forms is not, however, shared by several scientists. In the Tables, however, information on the total iron content as well as the meagre information on the "available" iron in foods is presented. In view of the divergent opinion regarding the form and circumstances governing iron assimilation, a generous allowance of 20 to 30 mg. per day of iron derived from all the foods present in the diet is usually made. Under such conditions, probably sufficient iron will be assimilated.

In the treatment of certain forms of anaemia (condition with poor blood haemoglobin), iron medication is more effective than the consumption of a diet containing abundant iron-rich foods. For the prevention of anaemia, however, an iron-rich diet is valuable. It may be worth mentioning that pregnant women are particularly prone to suffer from anaemia.

Other elements

Copper.—Though a precise role for copper in human nutrition has not been indicated, the element appears to be associated in some way with the utilisation and functioning of iron in the body. The ordinary diet is able to provide enough copper for human needs and data on the copper content of foods are given in the Tables.

Magnesium.—Magnesium is present in small amounts in all human tissues. It forms part of the bone substance along with calcium. It is required in minute amounts for some biological reactions within the body. Magnesium is an essential component of the green pigment, chlorophyll, found in vegetable foods. Data on the magnesium content of foods are given in the Tables.

Sulphur.—Sulphur is a constituent of the two amino-acids methionine and cystine which are important components of most proteins. Sulphur is present in considerable amounts in the hair and similar tissues. The requirement for sulphur in humans is not clearly defined. The available figures on sulphur content of foods are given in the Tables.

Sodium, potassium and chlorides.—Sodium and potassium are important constituents of body fluids present within and outside the cells. They help in keeping the body fluids in proper concentration so as to keep the cells in proper shape. Considerable amounts of sodium chloride are present in perspiration. To make good this loss and to compensate the amount lost in urine, a source of sodium and chlorides, namely common salt (*sodium chloride*) is included in the diet. The amount of sodium chloride which is ordinarily added to food is so large that the amounts of sodium and chlorine naturally present in foodstuffs have little practical significance in normal diets. However, there are certain diseases in which a low-sodium diet is used frequently and, in this connection, knowledge regarding the sodium and chlorine content of foods may be desirable. To meet this need, the sodium and chlorine content of foods are given in the Tables. Conversely, when there is profuse perspiration, as often happens in many places in India during

summer or with persons working hard near boilers, in mines, etc., it is advantageous to replace the loss of sodium chloride through sweat either by taking a little extra salt with the drinking water or by adding to the food. There appears to be no clearcut requirements for intake of sodium chloride prescribed as such but about 10 g. a day may be a probable figure. Most vegetable foods are low in sodium.

The requirements of potassium run almost parallel with those of sodium. Most vegetable foods as may be seen from the Tables are comparatively rich in potassium.

Acid-base balance in foods.—Foods are classified as acid-producing or alkali-producing depending on their effect on the urine. Calcium, magnesium, sodium and potassium present in foods contribute to the alkaline effect while sulphur, phosphorus and chlorine contribute to the acidic effect. Depending on which constituents predominate in a particular food, it is classified as acid-producing or alkali-producing. Meat, fish, eggs, and most cereals are acid producing while foods like milk and ragi which are rich in calcium and vegetables and fruits are alkali-producing. Some fruits like plums, prunes, etc., however, because of the special organic acids contained in them which are, for the most part, excreted without being metabolised, are acidic. The net acidic or basic effect of a food can be found out by calculation from the food constituents described above. Available data on the net acid or alkaline effect of different foods are given in the Tables. Such information is of value at times for prescribing diets under certain diseased conditions.

Other elements.—Besides the constituents enumerated above, a large number of other elements appear to be required in normal nutrition such as manganese, cobalt, zinc, fluorine, iodine, etc. These are all required in minute amounts and it is reasonable to suppose that they will be supplied in adequate amounts if the requirements of the principal elements, calcium, phosphorus and iron are satisfied through diet.

The element, iodine, has been a subject of considerable study. Deficiency of iodine in soils and foods has been met with in areas like the sub-Himalayan regions of India where the disease goitre (swelling of the thyroid gland in the neck) is common. The special problem of iodine deficiency and effotts at increasing the intake of iodine as a means of combating goitre are aspects which are beyond the scope of this Bulletin.

A brief mention about fluorine may be made here. In some areas in Andhra Pradesh and other States, the amount of fluorine in drinking water is rather high. Continued consumption of such waters leads to a disease known as fluorosis affecting the teeth and bones. While excessive fluorine produces these bad effects, fluorine in quantities of about 1 part per million in the diet appears to prevent dental caries. Dental caries is probably caused partly by the excessive consumption of sticky sweets and chocolates which may promote the growth of germs that affect oral hygiene and cause tooth decay. The habit of rinsing the mouth after each meal,

widely prevalent among Indian communities, should be encouraged specially in children. This may go a long way in preventing dental caries.

Effect of cooking on Nutritive Value

Nearly all foodstuffs, with the exception of fruits and some leafy vegetables used either as salads or in *chutneys*, are consumed in the cooked state. The assessment of the nutritive value of any foodstuff should, strictly speaking, be made on the cooked material, the state in which it is consumed and not in its raw state. But culinary practice varies from province to province, district to district and even house to house. Further, reports of systematic investigation on the subject are rather meagre and hence only broad details are given.

Cooking involves one of the following processes—wet methods of treatment like boiling and steaming and dry methods of treatment like frying, roasting and baking. The wet methods of cooking lead to comparatively greater losses than the dry methods. The effect on the nutritive value of foodstuffs as a result of heating and cooking is, on the whole, less pronounced than is generally believed.

Ordinary cooking causes little loss of protein, fat and carbohydrates in cereals, pulses and meat ; in vegetables, however, there may be some protein lost on boiling in water, particularly when salt is used in cooking and the cooking water rejected. If the cooking water is thrown, there is considerable loss of mineral salts especially of sodium, potassium and chlorine due to leaching. It is advisable to use the minimum amount of water and to utilise the cooking liquor in either soups or gravies. Root vegetables do not suffer much loss by either the wet or dry methods of cooking. The skin of most root vegetables is impermeable and hence it is preferable to boil them with their skins. Further it is advisable not to peel and cut the vegetables long before boiling. The vegetable may be cut into as big pieces as possible, added immediately to water which has already been brought to boil and cooked for as short a time as possible. The cooking liquor can be made use of in soups. Losses due to leaching are less if the vegetables are just steamed.

Even during preliminary treatment of washing prior to cooking, a certain amount of minerals and vitamins is lost. It is a common practice for the housewife to wash rice three or four times with large amounts of water before cooking. Considerable amounts of minerals pass into the water, the proportion removed being greater than that removed by subsequent cooking. Rice of poor commercial quality naturally requires more washing than rice of good quality and in the process there is a loss of minerals. The B vitamins especially thiamine and nicotinic acid may also be lost to the extent of about 40 per cent. The rice "conjee" or the surplus liquor strained away after cooking rice, also carries with it a part of the vitamins. It may, however, be mentioned that conjee, though it carries a small portion of the vitamin and minerals contained in the original rice, is not of very high nutritive value as is generally believed. It will be a good practice to wash the rice only if necessary with little water and cook it in just sufficient water so that all the water is absorbed and no 'conjee' is discarded.

More than the mineral salts, it is the vitamins, particularly the members of the water-soluble group that show greater loss as a result of cooking. Vitamin A or carotene is not affected when foodstuffs are cooked in water. But in shallow frying or roasting there may be considerable loss of this vitamin. In the preparation of chips, etc., when the vegetables are cut and immediately fried in hot deep fat for short time, the loss in vitamin A is perhaps not high. The loss in thiamine due to cooking may be occasioned partly by destruction during cooking and partly by the dissolution of the vitamin in the cooking water. If excess water is used and the cooking water is discarded, a loss of as much as 50 per cent of the vitamin can occur. Further, if soda (sodium bicarbonate) is added especially while cooking dhals or pulses to facilitate cooking or preserve the colour of the dhal, most of the vitamin B_1 is destroyed. Conversely, a substance like tamarind with high acidity, if added to cooking water, has a preservative effect on the vitamins. Especially, vitamin C which is water-soluble and is also easily oxidised is lost through leaching in the boiling water and also during the interval between cooking and actual consumption. It may be preferable to cook leafy vegetables with the lid on with minimum exposure to air and in the minimum quantity of water ; the sooner the preparation is consumed after cooking, the better. Since in most houses a dish is rarely consumed immediately after cooking, it is desirable to include some raw fruit or vegetable in the diet as a source of vitamin C. Milk is a poor source of vitamin C and in boiling, a major portion of this vitamin is lost. Eggs appear to suffer little loss in nutritive value as a result of the conventional methods of cooking.

It has been reported recently on the basis of animal experiments that fats repeatedly used over a number of days for frying become slightly toxic.

Cooking has several beneficial effects. It improves the appearance of several foods and confers new flavours and makes foods more appetising and palatable. Harmful disease-bearing germs present in foodstuffs are killed as a result of cooking. The digestibility of several foods is improved by cooking. For instance, the starch present in foodgrains is surrounded by a tough cellulose wall. Mastication in the mouth is incapable of disrupting this wall and digestive juices cannot get access to the starch. When the grains are cooked, the heat causes the starch to swell and burst the cell-walls and thus starch and other nutrients within the food-grains become more easily accessible to the digestive enzymes. Cooking makes meat more soft and capable of being chewed. In egg yolk, a vitamin of the B group, biotin, is present in fair amounts, but the white of egg contains a substance called avidin which is capable of inactivating biotin. When egg is cooked, avidin is completely destroyed so that biotin is made available to the body. Similarly, some pulses and legumes like soyabean and Bengal gram and duck's egg contain some substances which hinder the digestion of the proteins of these foods by the enzyme trypsin present in our intestines. During cooking, these trypsin inhibitors get destroyed and make the protein of these foods better digestible. Further, the proteins of several foods improve in biological value as a result of moderate heating

as in ordinary cooking ; excessive heating of proteins may, however, affect their nutritive value adversely. The use of iron knives for slicing vegetables and cast iron pans for frying has been shown to add to the iron content of the dietary, though to what extent such iron is physiologically available is not known.

Dietary Allowances

The preceding pages have provided an account of the importance of the different nutrients present in food. In order to prevent the ill-effects due to deficiency of particular nutrients and to sustain a vigorous and healthy life, it is necessary to know in quantitative terms the amounts of the different nutrients needed. Obviously, this need will vary with the age, type of work and the dietary habits of the persons concerned. A schedule of dietary allowances will have to meet at least the minimum nutritional needs of the majority of persons for whom it is applied and at the same time provide reasonable margin to allow for physiological non-availability of some nutrients from particular foods. Such a schedule will help a group of persons to select the proper foods that will provide the nutrients in the amounts indicated. Also on a national level, such allowances will be useful in enabling governments to plan their food production policies, to judge the adequacy or otherwise of the national supply of foods, and to point to the areas in which improvement is called for.

The Nutrition Advisory Committee of the Indian Research Fund Association, now Indian Council of Medical Research, formulated in 1944 one schedule of recommended dietary allowances. The figures were based on work done in India and abroad.

In view of the changed conditions at the end of the war and taking into account the increased available information on the subject as a result of researches carried out in India itself, the Committee decided in November 1958 to revise its recommendations with regard to calories and proteins. The suggested daily allowances of calories and other nutrients are set out in Table I.

Notes on the Table

1. The term "net calories" means the energy available from the food actually assimilated.

2. The details of considerations on which the recommendations for calories and proteins are based are published separately as Indian Council of Medical Research Special Report Series No. 35, "Dietary Allowances for Indians—Calories and Proteins" by V.N. Patwardhan.

3. The recommendations for protein are subject to the proviso that dietary protein is derived from more than one foodstuff. Proteins of animal origin are generally superior in biological value to vegetable proteins. But it is possible to improve the biological value of vegetable protein through proper admixture and obtain a pattern of essential amino-acids in the resulting mixture almost similar to animal proteins. Hence it is not insisted that a certain proportion of animal protein should be included in the diet. However, for infants and children and pregnant

TABLE I

Recommended daily allowances of calories and some essential nutrients.

		Net calories	Proteins, g.	Calcium, g.	Iron, mg.	Vitamin A, I.U.	Thiamine (vitamin B_1) mg.	Ascorbic acid (vitamin C) mg.	Vitamin D. I.U.	Others
Man (55 kg. or 120 lbs.)	Sedentary work	2400								(See notes for recommendations regarding fat, carbohydrates, other B vitamins and other minerals)
	Moderate work	2800	55							
	Heavy work	3900		1·0						
Woman (45 kg. or 100 lbs.)	Sedentary work	2000			20	3000	1·0			
	Moderate work	2300	45		to	to	to	50		
	Heavy work	3000			30	4000	2·0			
	Pregnancy (Latter half)	2300	100	1·5					400 to	
	Lactation	2700	110	2·0					800	
Children	0 to 6 months	120/kg.								
	7 to 12 months	100/kg.	3·5/kg.							
	1 to 3 years	1200								
	4 to 5 years	1500								
	5 to 6 years	1600	3·0/kg.							
	6 to ~~7 years~~	1800								
	7 to 9 years	1800		1·0	10	3000	0·5	30	400	
	10 to 12 years	2100		to	to	to	to	to	to	
			2·5/kg.	1·5	30	4000	1·0	50	800	
Adolescents	13 to 15 years : Girls	2100						and		
	Boys	2500						over		
	16 to 19 years : Girls	2100	2·0/kg.							
	Boys	3150								

Note : The estimates of the protein requirements of children and adolescents are given in terms of grams per kilogram because adequate data about average weight in the various age groups are not available.

and nursing women, it may be desirable to supply at least some part of the dietary protein in the form of milk, a protein easily assimilable and with a high biological value.

4. The requirement of fats has been discussed in the text. Fats are a concentrated source of energy and are the vehicles of fat-soluble vitamins A, D, E, and K. Though there is no clear recommendation it appears unnecessary to have a fat intake which will supply more than 15 per cent of the calories in the diet.

5. Figures for carbohydrate requirements are not given in the table. If the constituents listed in the table are obtained from a variety of natural foodstuffs, adequate amounts of carbohydrate will be obtained.

6. The calcium requirements of children and of women towards the end of pregnancy and during lactation are even higher than that of adults. Hence the diet of this section of the population should include larger amounts of foods rich in calcium such as milk, ragi and green leafy vegetables than that of adults.

7. The requirement of phosphorus is closely related to that of calcium. However, most foods are well-endowed with phosphorus and if the calcium and protein requirements are met, the phosphorus requirements are usually obtained.

8. The physiological availability of iron from different foods varies widely and hence a liberal recommendation has been made. Normally women require more iron than men and the requirement is further increased during pregnancy and lactation.

9. Minerals such as iodine, magnesium, copper and manganese are essential in nutrition but needed in small amounts only. If a diet is well-balanced and is adequate in respect of other nutrients for which requirements are specifically given, it can be safely assumed that adequate quantities of these minerals will be obtained.

10. Equivalents of 1 milligram of various vitamins in International Units are shown below :

1·0 milligram of β carotene	=	1,666 I.U. vitamin A
1·0 milligram of vitamin A	=	3,300 I.U.
1·0 milligram of thiamine hydrochloride	=	333 I.U. vitamin B_1
1·0 milligram of calciferol	=	40,000 I.U. vitamin D.

11. Vitamin A requirements can be met by pre-formed vitamin A from animal foods and by pro-vitamin A (carotene) present in foods of plant origin. The latter is not well absorbed and depends on the fat content of the diet for absorption. Therefore, when carotene forms the bulk of the source of the vitamin in the diet, a higher level of intake is necessary. In Indian diets, carotene is the main form of vitamin A supplied. The figure in the Table is intended to cover vitamin A requirements in terms of Indian food habits. It may be mentioned that,

American recommendations for vitamin A during pregnancy and lactation are of the order of 6,000 to 8,000 I.U. The requirements suggested here are, therefore, to be taken as minimal and additional amounts are desirable. Since infants and young children may not have a fully mature system to convert carotene into vitamin A, it is desirable that their diets contain some preformed vitamin A derived from milk and milk products and fish liver oils.

12. Vitamin D is undoubtedly necessary for older children although no definite figure can be given at present. Exposure to the ultraviolet component of sunlight leads to the production of vitamin D in the skin and this may supply a part, probably half, of the vitamin D requirement of adults and older children.

13. The vitamin B_1 requirement is related to the energy requirement and works out to about 0·5 mg. per 1,000 calories.

14. The riboflavin requirement appears to be related to the protein and calorie requirement. Suggested requirements vary from about 0·4 mg. for infants to about 2·5 mg. for adolescents and nursing women with an average of about 1·5 mg. for normal adults.

15. Suggested requirements for nicotinic acid range from about 4 mg. to 19 mg. depending on the age and physiological needs such as pregnancy etc. of the individual. Intake of foods rich in the amino-acid tryptophan helps to reduce the need for nicotinic acid to some extent. In the average Indian diets, cereals are the most important source of nicotinic acid.

16. The requirements for vitamin C have been variously given from 20-70 mg. Green leafy vegetables and cheap fruits like amla and guava supply the vitamin in Indian diets.

17. The incomplete availability of some constituents from foods and the possible losses of nutrients in food preparation have been allowed for in making these recommendations.

Balanced Diet

In the preceding pages, we considered the importance of the various nutrients in human nutrition. We shall now consider the planning of diets which would provide these essential nutrients in the needed amounts and proportions. A "balanced diet" is one which contains different types of foods in such quantities and proportions that the need for calories, minerals, vitamin and other nutrients are adequately met and a small provision is made for extra nutrients to withstand short durations of leanness. Taking into account the foods which commonly form part of the Indian diets, a balanced diet with the following composition has been suggested (Table II).

A diet of this type will supply all the essential nutrients in adequate amounts and keep the majority of individuals consuming it in a state of good health. It may be pertinent to consider at this stage how each class of foods supplies our daily requirement of the various nutrients.

TABLE II

Composition of a balanced diet suitable for a normal adult male.

(Adequate for the maintenance of good health)

Class of food	Quantity	
	Ozs.	Gms.
Cereals ...	14	400
Pulses, nuts and oilseeds ...	3	85
Green leafy vegetables ...	4	114
Root vegetables ...	3	85
Other vegetables ...	3	85
Fruits ...	3	85
Milk and milk products ...	10	284
Sugar and jaggery ...	2	57
Vegetable oil, ghee etc. ...	2	57
Fish and meat ...	3	85
Eggs	1½ (1 egg)	40

Note : 1. The approximate nutritive value of the diet is : Calories 3000 ; protein 90 g. ; carbohydrates 450 g. ; fat 90 g. ; calcium 1·4 g. ; phosphorus 2·0 g. ; iron 47 mg ; carotene and vitamin A 8,400 I.U. vitamin A ; thiamine 2·1 mg. ; riboflavin 1·8 mg. ; Nicotinic acid 22 mg. ; vitamin C 240 mg.

2. Persons who do not normally consume flesh foods can obtain a balanced diet by increasing the quantity of milk, pulses or nuts.

Cereals.—Rice, wheat and the millets, jowar, bajra and ragi are the main cereals consumed in India. They are the cheapest sources of calories in the diet and in poor diets contribute as much as even 70-80 per cent of the calories. Most cereals contain from 6 to 12 per cent protein and in view of the large proportions in which cereals are included in the diet, cereals are an important source of protein also in the Indian diet. Cereals other than ragi are poor in calcium. Ragi is rich in calcium while yellow maize is a fair source of carotene. Cereals supply the major portion of B vitamins, especially thaimine and nicotinic acid in the average Indian diet.

Pulses.—Pulses are rich in proteins. In diets poor in flesh foods, pulses are an important source of protein and are sometimes known as the "poor man's meat". Besides, pulses are also good sources of B vitamins, especially thiamine and riboflavin. Pulse proteins have a relatively low biological value but the biological value of a mixture of cereal protein and pulse protein is good. Dried pulses do not contain any vitamin C but sprouted pulses, especially greengram and Bengalgram and tender pulses are good sources of the vitamin.

Nuts and oil seeds.—Though not belonging exactly to the same class as pulses, nuts and oilseeds are also good vegetable sources of protein. They provide us the edible oils, and the oilseed cake that is left behind is rich in protein, B vitamins and minerals. Oilseed cakes were not used as human food to any significant extent till recently because the method of preparation of oilseed-cakes was not clean enough and the removal of oil from the oilseeds was incomplete when country *ghanis* were used. The latter resulted in the oilseed cake still retaining considerable part of the oil which turned rancid in due course and gave rise to off-flavours. However, improved extraction procedures followed in large mills in recent years have enabled the production of clean products practically free from off-flavours. Thus, the use of groundnuts for preparation of milk substitutes and groundnut flour in school-feeding programmes is now being advocated in an increasing measure.

Green leafy vegetables.—Green leafy vegetables like palak, amaranth and mint are rich sources of calcium, iron, carotene and vitamin C. In fact, these vegetables are among the cheapest sources of these nutrients. In addition, they are fair sources of riboflavin and folic acid. Deficiency of these nutrients is commonly found in our country. Adequate steps should therefore be taken to encourage the cultivation of green leafy vegetables (in kitchen-gardens) and their increased consumption especially by the vulnerable sections of the population like pregnant and nursing women and children.

Root vegetables.—The important foods in this group are tapioca, potato, sweet potato, carrots, yam and colocasia. They are good sources of carbohydrates. Tapioca which forms a staple article of diet in Kerala is rich in carbohydrates but poor in protein. Carrots are good sources of carotene. Potatoes cooked and consumed with their skin may contribute a good amount of vitamin C. In view of their high yields per acre, tapioca and sweet potato have served as emergency or famine foods in times of cereal shortage.

Other vegetables.—Several vegetables other than leafy and root vegetables are consumed. Some of them like bittergourd for instance are fair sources of vitamin C and minerals.

In general, all vegetables are rich in fibre. They add variety to the diet and are fair sources of vitamins and minerals.

Fruits.—Fruits are, in general, good sources of vitamin C. Mango and papaya contain carotene in addition. Tomatoes, citrus fruits, guavas, cashew apples are all good sources of vitamin C. Dried fruits like raisins and dates are sources of iron. It is desirable to include some fruits in season in the diet.

The commonly used fruit, banana, however, is mainly a carbohydrate food with a small amount of vitamin C. If green leafy vegetables are included in the diet in adequate amounts, the need for fruit as an essential item in the diet is perhaps much reduced.

Milk and milk products.—Milk is an ideal food for infants and children and a good supplementary food for adults. It contains proteins of good quality and other nutrients in proper proportions and is thus a complete food. It is somewhat deficient in iron and vitamins C and D. The overall value of the milk of different species is almost similar. Human milk contains lactose (milk sugar) in excess while buffalo milk is richer in fat.

Milk products derived from whole milk like curd and khoa are equal in nutritive value to milk. The value of other milk products like milk powder and condensed milk used in feeding children is discussed later.

The requirement of milk for an adult has been given in Table II at 10 ounces per day. This low figure has been suggested as a practicable objective in the context of the prevailing low per capita availability of milk in the country. It should be our aim in food planning to achieve a much higher figure than this. In more advanced nations and even in some areas of our country, a level of intake of about 20 ounces per day is common and for children a daily allowance of even 40 ounces is recommended. Renewed and vigorous efforts are needed to increase the average level of milk consumption and, in the meantime, the available milk should be channelised to meet the priority needs of infants, growing children and pregnant and nursing women.

Sugar and jaggery.—These are mainly sources of energy. Jaggery contains in addition iron. Sugar and jaggery are mainly used as sweetening agents in beverages and other foods and increase the palatability of foods.

Fats and oils.—It was stated earlier that an intake of about 1½ to 2 ozs. or about 50 gms. of fat may be a desirable level. In addition to the amount of visible fat (i.e.) fat as ghee or oil that is included in the diet, other foods like milk, fish and meat contribute some fat to the diet. Thus the total fat content of the balanced diet suggested above is of the order of about 90 g.

Fish and meat.—Fish is rich in proteins of high biological value and B vitamins. Some fish contain liver oils rich in vitamins A and D. Small fish, eaten with bones, are good sources of calcium.

Meat is a good source of good quality proteins and B vitamins.

Eggs.—Eggs are rich in all the nutrients except vitamin C. Duck's egg contains a trypsin-inhibitor which is destroyed when the egg is boiled. The presence of avidin in egg-white has already been mentioned.

Condiments and spices.—These accessory foodstuffs are not included in Table II. Most of them are used for flavouring foods. Some of them contribute in appreciable amounts essential nutrients even in the small quantities in which they are used. For instance, coriander and chillies are good sources of carotene, green chillies supply vitamin C and turmeric and tamarind are fair sources of iron. Their value in improving the palatability of the diet is to be particularly stressed and as such their use in moderate quantities is desirable. Some spices like garlic and asafoetida are believed to contain active principles which control the growth of putrefactive bacteria in the intestinal tract.

INVESTIGATION OF DIETS AND THEIR IMPROVEMENTS IN PRACTICE

Diet surveys are usually carried out by house to house visits in which information about food consumption, the number of inmates with their age and sex, monthly income of the family etc. is collected. From these data one can derive the quantity of foodstuffs actually consumed per capita in the family and calculate the intake of nutrients by a reference to the Tables given at the end. One can then proceed to suggest improvements in the diet. Attempts in this direction are likely to be limited by the income of the family, and if the ideal is not possible to be attained, at least whatever is feasible economically must be attempted. A wide choice of cheap foodstuffs is available in the country and a judicious use of these will greatly help in correcting the dietary inadequacies.

A concrete example will illustrate the methods to be followed in improving diets and drawing up satisfactory diet schedules. A typical average Indian diet, as found from diet surveys, works out as given in Table III. By reference to the Tables which follow later, the nutritive value of such a diet has been worked out and is given in the same table.

TABLE III

Composition of an average Indian diet and its approximate nutritive value

	Ozs.	Gms.		
Cereals	16·6	471	Protein	58 gms.
Milk	2·8	80	Fat	29 gms.
Pulses	2·4	68	Carbohydrate	405 gms.
Leafy vegetables	0·7	20	Calories	2,100
Other vegetables	3·2	91	Calcium	0·6 gm.
Oils and Fats	0·5	14	Phosphorus	1·3gms.
Sugar and Jaggery	0·7	20	Iron	31 mg.
Meat, fish and eggs	0·5	14	Vitamin A	1,200 I.U.
			Vitamin B_1	1·7 mg.
Fruits (and nuts)	0·2	6	Vitamin C	57 mg.

It will be apparent that this diet is insufficient in quantity and that it fails to supply the necessary requirements of most of the food factors enumerated and is thus ill-balanced. As already stated, such a diet is typical of diets consumed by millions in India. The nutritive value has been calculated on the assumption that the cereal intake is composed of a mixture of cereals. It is common knowledge that in most families only a single cereal is consumed. Further, though items like leafy vegetables and flesh foods and fruits are listed in the average Indian diet given above, only few families consume these occasionally. If we take these facts into consideration, the nutritive value of the diet consumed in a good number of families constituting a majority of the population will be much worse than what is shown above.

An improvement is possible in this diet in almost every category of foodstuff. If means did allow, the foodstuffs included in Table II in quantities given there to make a well-balanced diet would be the best substitute. But it will be realised that items like milk, fruits and flesh foods are expensive and beyond the means of many. In these circumstances it would be better if the question of cost was borne in mind while attempting any improvement in the diet. Further, with the increasing population in the country, the production of certain foods especially the foods which supply the vitamins, proteins and minerals has not kept pace with our needs and hence it may be necessary to plan such improvements only as may be attainable in the immediate future. The broad lines in which improved diets for groups of persons can be formulated are: (*a*) introduction of a second cereal or mixed cereal diet the substitution of even a part of the staple cereal, rice or wheat by millets like ragi or bajra serves to provide a diet with increased nutritive value at practically no extra cost or even cheaper; (*b*) increased intake of pulses wherever feasible; (*c*) increased use of green leafy vegetables in the diet and (*d*) introduction of cheap flesh foods, two to three times a week, if possible.

In Table IV the composition of an improved diet has been suggested. The nutritive value of this diet is considerably superior to that of the average Indian diet and it does not involve any heavy extra cost. In devising this diet, some practical considerations such as the availability of different foods in the country have been taken into account.

TABLE IV

Composition of an improved diet and its approximate nutritive value

	Ozs.	Gms.		
Cereals	7	200	Protein	70 gms.
Millets	7	200	Fat	50 gms.
Pulses	3	85	Carbohydrate	440 gms.
Leafy vegetables	4	116	Calories	2,500
Other vegetables	3	85	Calcium	0·8 gm.
Fruits	2	57	Phosphorus	1·4gms.
Milk	6	170	Iron	40 mg.
Sugar and Jaggery	2	57	Vitamin A	7,300 (I.U.)
Vegetable oils	1	28	Vitamin B_1	1·8 mg.
Meat, fish and eggs	1	28	Vitamin C	200 mg.

There may be several criticisms of this improved diet viz., the low quantity of milk and fats and inadequacy in respect of calories, calcium and vitamins compared to the balanced diet. But it may be worth remembering the limitations before making such criticisms.

Well-balanced diets are in general more expensive than deficient ones. The typical average Indian diet shown in Table III largely composed of cereals

and less of other foods may cost around Rs. 15/- per adult per month at present day prices; the well-balanced diet richer in milk and other foods, Rs. 30 to 35. It is at this point that the nutrition worker encounters the main difficulty. The improved diet suggested in Table IV may cost around Rs. 20/- per adult per month and may be a desirable goal in this context.

Many residential institutions for children in India, for example, are very short of money. While it may often be impossible to supply a really satisfactory diet for such sums, it may be worth remembering certain points while attempting improvements in such diets. It is desirable that children should consume upwards of 8 ozs. of milk a day—8 ozs. being an amount below that recommended as "optimum" by nutritional workers elsewhere. If available funds do not admit the addition of this amount of whole milk, butter milk or skimmed milk reconstituted from skimmed milk powder which are considerably cheaper, may be supplied. Even a little milk is better than none. Careful experiments have shown that the addition of 8 ozs. of skimmed milk daily to children fed on an average Indian diet results in an acceleration of growth and a great improvement in health and well-being.

Other points to which attention should be given include the following: If the cereal consumed is milled rice, an improvement in the nutritive value of the diet (and in the health of those consuming it) can be brought about by wholly or partially substituting undermilled rice, whole wheat, or one of the millets, particularly ragi. If milled rice remains the basis of the diet, it should be realised that the milled rice eater needs more "protective" foods, milk, green vegetables, fruits, etc., than the consumer of whole wheat or ragi. When the diet is almost wholly composed of rice—when people are so poor that they cannot afford to buy other foods except occasionally in small quantities—then the state in which the rice is eaten becomes of paramount importance. Parboiled rice, even when milled, is superior in nutritive value (particularly as regards the anti-beriberi vitamin) to raw rice milled to the same degree.

Pulses are rich in protein and in some of the B vitamins; 2-3 ozs. per day will increase the nutritive value of a diet largely composed of cereals. The soyabean is rich in protein and fat. The cultivation and use of soyabean has, however, not made much headway in India but efforts are being made in this direction. If soyabean is to be widely used in India, attention will have to be given to methods of preparing it in a palatable form. When cooked as a dhal, it does not seem, however, to have any advantage as a food for human beings over other pulses in common use in India. It has already been stated that the quality of pulse proteins is not so good as that of milk, fish and meat. However, a preparation of germinated soyabean called soyabean milk has been shown to be nutritious and cheaper than cow's milk.

Fruits should particularly be included in children's diets. Plantains, a cheap fruit often supplied in hostels, are good food but not of exceptionally high nutritive value. Tomatoes and oranges and other "juicy" fruits are richer in vitamins and

make a useful addition to diets of the poorer type. Whenever the question of cost precludes the use of fruit, a higher intake of green leafy vegetables will provide the nutrients usually obtainable from fruits.

In attempting to improve unsatisfactory diets, it is often impossible to make sweeping changes and plan the whole diet afresh. The addition of a single food of high nutritive value such as milk, or green leafy vegetables, may in itself correct some of the more serious deficiencies of a diet and produce an improvement in the health of those who consume it. Daily doses of iron or calcium salts may have an excellent effect. Within recent years, the chemical constitution of a number of vitamins has been discovered and some of them can now be manufactured cheaply in large quantities. Vitamins produced in this way are just as valuable to the body as vitamins contained in foods.

Attempts to improve the nutritive value of foodstuffs by the addition of synthetic vitamins have been made in more than one country. In England, Vitamin B_1 made in a factory was, during the early years of the war, added to bread made from refined wheat flour to bring its nutritive value nearer to that of whole meal bread. In the United States of America, a few foods are being fortified with synthetic vitamins for the last few years. In India, the Nutrition Advisory Committee of the Indian Council of Medical Research has recommended fortification of toned milk and "vanaspati" with vitamin A and of refined wheat flour with B vitamins. While these recommendations, when implemented, may help in improving the situation, it has to be emphasized that a permanent improvement in the state of nutrition can only be achieved through a suitable combination of ordinary foods in our daily diets.

The question of cost has been strongly emphasised in the preceding paragraphs. But cost is not always important. It is not only the poor, whose choice in the matter of food is extremely limited and who are ignorant and prejudiced about diet that suffer in health. A large number of people in India and elsewhere, who could afford to consume an excellent diet, and feed their children on an excellent diet, do not in fact do so. One can readily find among children of the more prosperous classes, cases of serious malnutrition and food deficiency disease. One of the tasks of those who are striving to improve diet in India is to educate the "educated".

Human beings, and particularly children, cannot thrive at their best on a diet composed largely of cereals such as rice, millet, etc., and insufficiently supplemented by other foods. To make good the deficiencies of such a diet, they must consume fair quantities of foods like milk, green vegetables, eggs, fruits, etc. These are sometimes known as "protective" foods, since they are rich in proteins, vitamins and mineral salts and protect the body against the ills which result when the diet is largely based on less nutritious foods, such as milled rice. Fish liver oils which are rich in vitamins A and D, may for present purposes be classed as most valuable "protective" foods.

In general, diets in India are defective because they do not contain "protective" foods in sufficient amounts. Our aim in public health nutrition work in general and in planning "well-balanced" diets in particular, must be to increase the intake of "protective" foods. The classes in the community which are particularly likely to suffer if their diet is defective are infants and growing children and expectant and nursing mothers.

In planning improvements in diets, one is often faced with the problem of formulating suitable daily menus with which the improved intake of particular foods can be accomplished. The Nutrition Research Laboratories has brought out two brochures entitled "Menus for low-cost balanced diets and school lunch programmes" suitable for South and North India. These may be of value as practical guides in this connection.

Malnutrition and ill-health

Extensive diet surveys carried out in our country over the last several years have shown that the diets of a good proportion of our population are inadequate, according to accepted standards. The deficiencies in the diets are both qualitative and quantitative. Among the poorest sections of the population, even the basic cloric requirements are not met. The intake of proteins, vitamins and calories falls far short of the desirable levels in several cases. Such unsatisfactory diets are reflected in the wide prevalence of malnutrition in the low and middle income groups in the country. Nutrition surveys have indicated a high incidence of frank nutritional deficiency diseases, specially among the vulnerable segments of the population, namely pregnant women, nursing mothers, infants and children. It may be pointed out that for every such case of frank clinical malnutrition there are several cases of sub-clinical or "twilight" zone of malnutrition in the community. These latter subjects may not exhibit frank signs of malnutrition but being far from the state of positive good health may fall an easy prey to intercurrent ailments. In addition to diseases directly attributable to malnutrition, it is now known that malnutrition may aggravate the clinical course of some infectious diseases. Thus, directly or indirectly, malnutrition accounts for a considerable part of the ill-health among our population. It is advisable that those who are in charge of institutional care of children and those concerned with practical nutrition work should have some idea of the effects of malnutrition on health.

Protein malnutrition.—Among the nutritional disorders affecting children in India, those due to deficiency of protein and vitamin A in the diet are most important. Protein malnutrition is largely responsible for the high rate of mortality and morbidity among poor children.

The problem of protein malnutrition is particularly acute in the age period 1 to 5 years. In early infancy, breast milk provides the protein requirements adequately. One of the most gratifying features of the nutritional situation of poor Indian communities is that the poor mothers in spite of their unsatisfactory nutritional status are able to put forth milk of fairly good quality and quantity.

However, even with the most satisfactory lactation, it would be impossible to sustain an infant on breast milk alone after the sixth month. Supplementary protein-rich foods like cow's milk become necessary after this period but cannot be afforded by the poor. It is for this reason that the manifestations of protein malnutrition are seen in poor children at about this time.

The manifestations of protein deficiency in children are stunting of growth, diarrhoea, discolouration and sparseness of hair, discolouration and peeling off of the skin, anaemia, swelling of the body and fatty liver. Not all these signs need be present in every case. Several cases end fatally while milder cases may suffer from permanent residual effects. The number of children suffering from frank protein deficiency is reported to run to several thousands.

The obvious solution to the situation is to provide milk in adequate amounts to such children. But the situation with regard to milk production in the country not being very hopeful at present, the possibilities of finding cheap alternative sources of protein have to be explored.

As stated in the earlier pages, it is possible to have a judicious combination of vegetable protein foods which would be effective in preventing protein malnutrition. Preparations based on a mixture of Bengal gram flour with sesame flour and groundnut flour have been used successfully. Therefore, the answer to the problem of protein malnutrition in our country for some years to come would seem to lie in the extended use of vegetable protein foods suitably processed for feeding infants and young children. It may be heartening to note that some preliminary steps have been taken by the government already in this direction.

Vitamin A deficiency.—The tragedy of malnutrition is not so much that it is responsible for high mortality but that it cripples and permanently damages the growing generation. Of the many crippling effects, probably the most devastating is on vision. It has been found that the number of blind people in India runs to several thousands. A great majority of these cases are known to be preventable. It is believed that the most common cause of preventable blindness is malnutrition due to deficiency of vitamin A in the diet.

Vitamin A deficiency is essentially a problem of children because the requirement of the vitamin is greatest in the period of growth. In mild forms of vitamin A deficiency, the conjunctiva (the transparent covering over the white portion of the eye balls) may show a muddy discolouration and instead of being moist and glistening may appear dry and lustreless. At this stage, an observant mother may notice that the child finds some difficulty in seeing objects properly with the approach of sunset. A characteristic feature is that at dusk the child gropes about for food in its plate. This condition is described as 'night blindness'. The condition can be easily treated if spotted at this stage. With the advance of the disease, the cornea (the transparent central portion of the eyeballs) becomes affected and loses its transparency. Still later, the cornea becomes eroded, softens and bulges out. In the final stages, the cornea is ruptured and destroyed and the lens inside also may be lost.

Once the cornea is affected, even the most energetic treatment is of no avail and permanent blindness cannot be prevented. The disease affects both the eyes simultaneously. In some fortunate children in whom one eye may be affected less seriously than the other, intensive treatment may result in partial retention of vision in one eye.

The problem of blindness arising from vitamin A deficiency is one of considerable magnitude especially in South India and Bengal where the number of cases of threatened or actual blindness resulting from vitamin A deficiency runs to several hundreds.

Knowledge as to how the disease is caused and how it can be effectively prevented is already available. Vitamin A can be obtained in the 'ready-made' state from such costly foods as butter, eggs, liver etc. Alternatively, many green vegetables and some fruits contain carotene which can be converted to vitamin A in the body. An average intake of about 1 to 2 ozs. of green vegetables which may not cost more than 2 nP. per day, will be able to provide the required amount of vitamin A to the child.

Regular intake of green leafy vegetables in such amounts will also help to build up a store of the vitamin in the body to provide for the lean seasons.

The rational approach to the problem of vitamin A deficiency in children would be to ensure adequate intake of carotene and vitamin A by the mother when she is pregnant. An intake of about 3 to 4 oz. daily of a mixture of green leafy vegetables by a pregnant woman will ensure adequate storage of vitamin A in the liver of infants at birth. With a good store of vitamin A at birth, the infant's diet after about the sixth month can be made to include green vegetables properly cooked. This will ensure proper vitamin A nutrition for the infant at a time when it needs it most. Effective health education in the Maternity and Child Health Centres to the mother to be watchful for any sign of deficiency even in the early stages and attend to the same promptly is also necessary.

Anaemia.—Among the nutritional disorders affecting women of child-bearing period, anaemia is one of the most important. The causative dietary factor in these cases is mostly iron deficiency. This can be prevented by the administration of iron and by including in the diet foods rich in iron. Malaria and hook worm infestations are contributory factors in addition to dietary iron deficiency. Pregnancy aggravates anaemia in women and anaemia in turn may deleteriously affect the course of pregnancy. The inclusion of about 3-4 ozs. of green leafy vegetables in the diet daily will help to supply the iron requirements adequately.

Besides the nutritional deficiency diseases enumerated above, deficiency of the B complex vitamins is also generally found among the population. While specific signs vary from case to case, sore mouth and tongue and erosions at the angles of the mouth are found in many ill-fed children and are characteristic of B complex deficiency.

Spongy bleeding gums suggest vitamin C deficiency and call for a greater consumption of fresh fruits and vegetables. Fortunately, severe cases of scurvy are rarely encountered in India.

Apart from the deficiency of specific nutrients even the total food intake and calorie intake may be insufficient. Inadequate intake of calories and protein in children may lead to marasmus in which the infant is markedly underweight and has a shrivelled pinched face. The situation improves with provision of adequate food.

The prevalence of 'goitre' in the sub-Himalayan regions of India due to deficiency of iodine in the diet has already been mentioned. Another dietary disorder, lathyrism, characterised by progressive paralysis of the legs, leading to permanent crippling and affecting mostly young men is widespread in certain parts of Madhya Pradesh and Bihar. The condition is associated with the excessive consumption of the pulse 'Lathyrus sativus' or 'Khesari dhal'. The consumption of small quantities of this pulse is not harmful : but continued consumption of the pulse almost as the sole food, precipitates the disease. The toxic factor in the pulse has so far eluded isolation and the growing of alternative food crops in these areas is also beset with practical difficulties. In the meantime, only education to avoid use of the pulse as the sole diet is of some value.

Dietary requirements of expectant and nursing mothers

It must be realised that the well-being of the infant depends to a considerable extent on the diet of its mother during pregnancy and lactation. The nourishing of the child makes extra demands on the mother, and her requirements of proteins, vitamins and minerals are increased in consequence. "Extra" requirements during the later months of pregnancy and lactation have been indicated in Table I. The extra protein can be obtained by substitution of a portion of the cereal in the diet by more pulses, milk, meat, fish or eggs. This would also ensure the necessary additional supply of minerals. Menus designed to provide a balanced diet for the expectant and nursing mother are described in detail in the publication entitled "Nutrition for Mother and Child" brought out by these Laboratories.

The feeding of infants

The pamphlet mentioned above also provides detailed account of infant feeding methods. It may, however, be useful to make a brief mention of some points connected with the feeding of infants.

Dietary requirements of infants

The subject of infant feeding and dietary requirements of infants has not been fully investigated in India and only tentative recommendations for average

normal infants of various ages can be roughly stated as follows :

		Calories
1st week	...	200
1st month	...	240
2nd month	...	400
3rd month	...	450
5th month	...	600
8th month	...	700
12th month	...	800

These figures are 20-25 per cent below those usually recommended in the case of infants in Europe and North America. In estimating the caloric requirements of infants, account is usually taken of both age and weight. An infant which is large, vigorous and healthy for its age may need more food than an ordinary infant of the same age, but on the other hand, over-weight may be due to excessive deposition of fat caused by over-feeding and calls for a reduction of food intake to a point nearer the average. A small emaciated infant, far underweight, requires more food than a better-nourished infant to bring it into a normal condition. While calculations based on the actual weight of the child have certain advantages, it is often sounder, all things considered, to estimate an infant's food requirements from age rather than weight. It is quite simple to translate the schedule of caloric requirement given above in terms of food.

Breast feeding

The main food of most infants is breast milk. Human milk yields 20 calories per oz. so that an average infant in the second month, fed exclusively at the breast, would require about 20 ozs. of milk a day—4 ozs. per feed if it is fed 5 times in the 24 hours. The breast milk secreted by Indian mothers has been found to be of the order of about 16-24 ozs. per day during the first year of lactation and rarely exceeds 30 ozs. per day. It will be apparent from the caloric requirements given above that breast milk alone is not able to supply the needs of the infants beyond the first six months and supplementary foods are indicated. Artificially fed infants require slightly more milk than breast fed infants, since the fat and protein in the milk of the cow and other species are less easily assimilated by the infant than human milk and the wastage is therefore greater.

The best food for infants is breast milk. This statement is unquestionably true and is established not only by general experience but also by scientific observations. Breast milk has the advantage over other kinds of milk in that it is less likely to be contaminated : "artificial" feeding involves greater danger of infection, particularly among the poor whose sanitary standards are perforce low. Nevertheless, it is a mistake to assume that, because an infant is being nourished in the natural way at its mother's breast, everything is for the best, and no further attention to the infant or the mother is necessary. If the infant is to thrive on breast milk, it must receive regularly enough breast milk of good quality.

In actual fact, ill-nourished women of the lower socio-economic classes often do not get enough nourishment in their diets. Recent surveys have indicated that the diet of nursing mothers in these classes provides only about 1,800 calories and 40 g. of protein per day, the latter not being of very high quality and derived for the most part from cereals. The utter deficiency of such a diet in various nutrients compared to the recommendations for this group of population given earlier, will be apparent. However, it appears to be an amazing gift of Providence that these mothers, in spite of their poor diet, are able to breast feed their children successfully enough during the first six months. The quality of the milk secreted by such women compares favourably with the milk of better-nourished women in India and elsewhere. The protein, fat and other major nutritional constituents are present in comparable amounts; in respect of vitamins of the B group (thiamine, riboflavin) and vitamin C and vitamin A, the milk of such women is somewhat poorer. Supplementation of the mother's diet with the vitamins of the B group and C has been found to be reflected in the milk but with vitamin A, the improvement is not quite so marked. This only serves to underline the importance of improving the diet of the mothers right from the start of pregnancy through the whole period of nursing the baby. Better diet for the mother ensures a better store of nutrients in the foetus and in the baby at birth, a full-term well-developed baby at birth, and breast milk of good quality and probably adequate in quantity during nursing.

The average Indian infant at birth weighs somewhat less than the average European infant, but not very much less. However, the growth performance of the Indian infant runs almost parallel with the other group during the first six months even though the Indian infant is nourished solely on breast-milk during this period unlike its European counterpart who may receive other supplementary foods in addition. After the first six months, the nutrients provided by the mother's milk alone is not enough to sustain the growth of the baby and it is at this stage suitable supplementary foods rich in protein and other nutrients are indicated. For want of proper care at this stage, the Indian infants of the poorer classes, at the age of one year, are often small and light as compared with the usual standards.

The yield of breast milk can often be increased by improving the diet of the mother. It is, however, not very helpful simply to advise a poor woman to take more milk, ghee, vegetables, etc., since she usually cannot afford to buy such food in sufficient quantities. But in recent years, the provision of skim milk powder to pregnant and nursing women in maternity and child health centres and in creches has increased and mothers should avail of these opportunities as much as possible. Further, the increased intake of leafy vegetables from kitchen gardens and seasonal fruits, wherever possible, has to be encouraged. There is no scientifiic basis for avoidance of fruits and vegetables by expectant and nursing women. Traditional superstitions and beliefs in this regard should be vigorously combated.

The amount of milk supplied by a mother can be estimated by "test feeds"

which means the careful weighing of the infant before and after feeding; or by completely expressing the milk from the breast into a sterile bottle before a number of feeds, and weighing it. In practice, the best guide to the adequacy of the milk supply is a regular and sufficient gain in weight by the infant, and test feeding is necessary only in the case of infants who fail to achieve an average gain of 4-5 ozs. per week.

Artificial feeding

If the quantity of breast milk available daily is not enough, then the infant's diet should be supplemented by some other form of milk, suitably modified. Sometimes no breast milk at all is available for the infant, in which case it has to be entirely "bottle" fed. Cow's milk, the food most commonly used in the "artificial" feeding of infants, has a caloric value roughly similar to that of human milk. Goat's milk, which is very rich in fat yields about 30 calories per oz.

Whatever type of milk is given as a substitute, it must be diluted with clean boiled water. The milk of cows, goats, and buffaloes is richer in protein than human milk, probably because the young of these species grow much faster than a human baby; the protein of such milks is perhaps not as completely suited to the infant as that of human milk. The addition of suitable amounts of water to such milks brings the protein content nearer to that of breast milk. Another point of importance is that human milk contains more sugar (lactose) than most other mammalian milks, and when these are diluted their sugar content falls far below that of human milk. To remedy this deficiency, it is usual to add sugar to milks given to infants to replace breast milk.

If cow's milk has to be given to an infant, then a suitable dilution during the first month is 2 parts of water for one part of milk. The proportion of water may be gradually reduced so that by the end of the first month the milk mixture contains equal quantities of milk and water. This may be continued for the first 3 months. The water may be gradually reduced so that by six months the child gets a milk mixture made up of 2 parts of milk and 1 part of water and by nine months, 3 parts of milk and 1 part of water and by one year, whole cow's milk as such. The amount of sugar added per day may be gradually increased from about one teaspoonful (about 6 grams) in the first week to 4 teaspoonful at 6 months (about 24 grams).

During the first few days of life the baby should be given 3-4 feeds per day. From this point until the end of the first month, it may be given 6 feeds daily. Subsequently the number of feeds may be reduced to 5, this number being given throughout most of the first year of life.

It is essential that all milk given to infants should be boiled, and all utensils used in feeding should be steamed or boiled in clean water.

Vitamins and minerals.—Most infants in the country thrive well on breast milk alone during the first six months, especially if the mother is well-fed during

pregnancy and lactation. The nutritional value of anything given in addition to breast milk during this period must be weighed against the very great danger of infection and infantile diarrhoea which is very common during this period particularly in the context of the very poor hygiene that obtains in most homes. However, if the hygienic preparation of supplementary foods can be adequately taken care of, the following may be worth considering.

Vitamin C in some form may be given from the 2nd month onward. The quantity given should correspond to a daily dose of not less than 5 milligrams of vitamin C. About 10 c.c. (two and a half teaspoonful) of orange or tomato juice will usually supply this amount. Other kinds of fruit juice—papaya juice, mango juice etc., can be used as a source of this vitamin.

Infants fed on the breast milk of a healthy mother, or on whole cow's milk of good quality can thrive without receiving additional supplies of vitamin A. It is, however, often recommended that cod or shark liver oil should be given to infants as a supplement, beginning with 2 drops a day at about the 15th day, the dose being increased gradually until one teaspoonful is reached by the end of the second month.

Cod or shark liver oil is of value in that it contains vitamin D. In many parts of India vitamin D is supplied by the action of sunlight on the skin.

Premature and sickly children may be benefited by iron given in various forms. Children fed exclusively on milk of over nine months may develop anaemia, which can be prevented by the administration of iron.

Various forms of milk : Special "infant foods".—In many countries today, there is an increasing tendency to use preserved milk and "infant foods" of various kinds in place of breast milk and fresh cow's milk. In India this practice is largely confined to the more prosperous classes, but it is not uncommon to find poor people buying tinned milk, etc., for their infants. Purchasers often feel that they are buying the best form of food for their babies and children. It is important that those concerned with teaching the people about food and diet should have a clear idea about the nature and value of such preparations.

Evaporated milk.—This is cow's milk from which water has been evaporated under reduced pressure at a sufficiently high temperature to destroy all bacteria. The resulting product is thick milk about twice as concentrated as fresh milk, which can be reconstituted into milk by the addition of water. Evaporated milk, sometimes called "unsweetened condensed milk", is a wholesome product, and can be used to replace other forms of milk in the diet of infants and adults. It has the disadvantage that it keeps for only a short time after the container is opened. Vitamin C is, however, destroyed in the manufacturing process, and it is essential that infants fed exclusively on such milk should be given this vitamin e.g., in the form of fruit juice. If originally prepared from milk of good quality, evaporated milk may be superior in nutritive value to fresh milk subjected to adulteration.

Condensed milk (sweetened).—This is prepared in a manner similar to evaporated milk except that lower degrees of heat are employed. Cane sugar is added in large quantities ; the final product may contain as much as 20 per cent of sugar. Condensed sweetened milk cannot be recommended for infant feeding. The large amount of sugar present involves a proportionate decrease in the content of protein, fat and minerals. Further, the sugar may cause intestinal irritation and upset.

Dried or powdered milk.—This is cow's milk which has been rapidly dried to powder at a high temperature by various industrial processes. The resulting product is simply the solids of milk in powder form. Dried milk, which can be reconstituted into liquid milk by the addition of about 8 times its weight of water is a sound food product, much used in infant feeding. "Humanised" dried milks are preparations in which part of the protein in the cow's milk is removed and sugar is added so as to make it resemble human milk in composition. These have achieved wide popularity as infant foods but it must be remembered that there is no special advantages in such products compared to the other form of dried milk. Vitamin C should always be given to infants fed on dried milk.

Buffalo milk is available in quantity in certain regions in the country. Buffalo milk is richer in fat and hence it has to be suitably modified and processed before feeding to infants. Advances in food technology in the country have made this possible and recently an infant food prepared from buffalo milk has been marketed. The main ingredient of milk which adds to the cost of milk is the fat ; hence to enable the vulnerable segments to obtain the nutritional benefits of milk at a cheap cost, "toned" milk which is just whole buffalo milk mixed with enough skimmed milk so as to bring down the fat content equal to that of cow's milk is distributed in Bombay and other places. By this procedure the fat content of the buffalo milk is reduced but the cost is brought down considerably.

All these kinds of milk are produced in the "whole" or "skimmed" form. There are also half-cream preparations. Skimmed milk preparations are considerably cheaper than whole milk preparations. No type of skimmed milk is suited to form the sole food of infants ; its exclusive use may lead to a very serious eye disease called keratomalacia which is due to vitamin A deficiency and is a common cause of blindness. Condensed sweetened skimmed milk is particularly dangerous if used in this manner. Nevertheless, milk reconstituted from evaporated or dried skimmed milk can be used safely if some substance containing vitamin A (e.g. cod or shark liver oil) is given at the same time. Actually skimmed milk reconstituted from powder can justifiably be recommended for infants of very poor mothers if it is the case of cheap skimmed milk or no milk at all. It is, however, essential that vitamin A should be given simultaneously. Older children living on a mixed diet can greatly benefit by skimmed milk.

Various forms of infant foods. (a) *Dried milk with malted cereals.*—Foods of this nature have little place in infant welfare work among the poor though they may be

useful when given under medical supervision in special cases. The proportion of altered starch to milk is usually high (about 50 per cent) and such foods, given alone, are unsuitable for prolonged feeding. Further, their cost is excessive in relation to their nutritive value.

Dried milk with unmalted cereals.—Products with this composition can be criticised on the same grounds. They are unsuitable for infants under 6 months, who cannot digest unaltered cereal starch.

(c) *Foods which are entirely composed of cereals.*—There is little justification for the use of such foods which are entirely unsuited to form the basis of an infant's diet. The food elements which they contain are similar to those present in ordinary cereals such as wheat and rice which can be bought at an infinitely lower price.

Weaning

The value of breast feeding the infant, as far as possible, has been emphasised. Even where mixed feeding is resorted to, it has been found on the basis of surveys, that, among the poor, breast milk supplies as much as 60 per cent of the protein needs of the child upto the end of the first year. Under the prevailing circumstances when other hygienic nutritious foods for the infant are beyond the economic reach of the family, it is a good policy to continue breast feeding as long as there is flow of milk and to supply adequate nutritious food to the mother. It must be emphasised, however, that breast milk alone cannot sustain the infant beyond the sixth month. It is essential that supplementary foods, in addition to breast milk, are introduced into the child's dietary by the sixth month.

During the first few months of life an infant cannot digest starch except perhaps in very small quantities and any form of solid food is likely to cause gastric and intestinal trouble. From six months onwards, it is usually able to assimilate starchy foods such as cereals.

Briefly, the principles behind introduction of foods other than breast milk to the infant may be stated as follows : During the first six months, if breast milk is adequate as shown by continued growth of the infant, no other food is necessary. During this time, the mother must be given nutritious diet to enable her sustain adequate milk flow to the infant. Where it is possible to provide foods hygienically to the baby, fish liver oil can be given from the first month and fruit juice from the second month onwards. This must necessarily be given if the infant is artificially fed. Semi-solid foods in the shape of a gruel or paste of a cereal such as rice, banana, ragi, etc., is the first food to be introduced in addition to breast milk. As soon as the infant has become accustomed to the first starchy food, the diet must be diversified so that the infant may acquire a taste for various foods. Soft vegetables like spinach, carrots etc., cooked, mashed and sieved may be included in the dietary. Soft and spongy iddli (or Dokla in Gujerat) which is a good combination of parboiled rice and pulse in a digestible form can be mashed with milk and fed

with a spoon to the baby. If egg can be afforded, it is better to start feeding the yolk mixed with the cereal or milk first in the 7th to 8th month and give the white of egg also after the child is about 12 months old. Some infants are allergic to the white of egg which may lead to digestive upsets and hence this suggestion. Minced meat and fish can be given to the child after about 15 months of age. More details on the introduction of weaning foods are given in the booklet entitled "Nutrition for Mother and Child" referred to earlier.

At the age of one year the baby should receive solid food, including cereals, pulses, vegetables, fruits, etc., but a considerable proportion of the diet should still consist of milk. This is necessary to satisfy adequately the protein needs of the infant for healthy growth.

The difficulties of infant welfare work in practice.—In the previous sections sound methods of infant feeding have been outlined. Those engaged in infant welfare work need a goal to aim at. In practice, however, it is often extremely difficult to apply such methods because of their cost. The greatest need of poor mothers and their infants attending welfare centres is usually more food (milk, etc.) and there is not enough money available to supply their requirements. The weaned infant often presents a problem of great difficulty. As long as it is receiving breast milk it may do fairly well, but if, on weaning it passes on to a diet of, let us say, rice, conjee and water, without sufficient milk, a great deterioration in its condition often takes place.

The usual practice in welfare centres in India, when poverty prevents the use of cow's milk, is to allow the mother to continue breast feeding even upto 2 years of age. The method gives satisfactory results provided it is possible for the mother to take additional good food and consume a diet satisfactory in quality and quantity. As regards the child, the most important aspect of weaning is the introduction of solids, not the stoppage of suckling.

It may sometimes happen that the breast milk is inadequate to meet the nutritional needs of the infant even upto six months. In such cases, milk supplements are necessary for the child. If whole milk is not available, skimmed milk may be supplied, provided cod or shark liver oil is given simultaneously. There is the possibility that cheap malted cereals may be used to increase the caloric intake of infants, particularly infants under 6 months, provided this is given along with some milk in an easily digestible form and prepared and given hygienically. Some malted infant foods have been already prepared and marketed in the country but the cost appears to be still beyond the reach of many.

If infants when partially or wholly weaned cannot be supplied with enough milk, malnutrition can to some extent be prevented by giving such foods as gruels based on whole cereals, softly cooked pulses, various preparations of vegetables, mashed fruits etc. The worst cases of malnutrition usually follow a diet which consists almost wholly of milled rice. Infant welfare workers should teach mothers

how to prepare suitable cheap cereal, vegetable and fruit mixtures for their infants, the type of mixture depending on the local customs, and the kinds of food which are cheap and readily available.

The rate of infant mortality in India (infants dying before one year) has come down from more than 200 per 1,000 in the early decades of this century, to about 116 per 1,000. Even so the figure is high compared to the very low figures in other advanced countries. Malnutrition is one of the major causes for this situation and it is necessary that improvement of the nutritional care of the mother and infant should receive the highest priority.

Notes on Food Value Tables

The information on the nutritive value of foods presented in the Tables which follow are, for the most part, based on analyses made at the Nutrition Research Laboratories, formerly at Coonoor and now at Hyderabad. However, in order to give wider coverage for the several constituents in various foods used in different parts of the country, figures obtained by institutions like University College of Science and Technology, Calcutta, Haffkine Institute, Bombay, Central Food Technological Research Institute, Mysore, State Food and Drug Laboratory, Ambala cantonment and Nutrition Laboratory, Patna, have also been made use of wherever necessary. The work in several of these institutions was aided by grants from the Indian Council of Medical Research. The individual contributions from the various institutions is published in scientific journals.

The analyses relate to the edible portion of the foodstuff, in as fresh a state as possible. In view of the large number of items included and in view of the gradual introduction of the metric system of measures and weights, the figures are given as percentages only (i.e.) grams per 100 grams for major constituents and as milligrams per 100 grams for constituents like iron, sulphur etc. which are present in smaller amounts. In order to enable the conversion of the figures to Indian measures or to the avoirdupois system of weights and measures (ounces and pounds) if needed, the following table may be used.

1 seer (weight)=2 lbs.	=	907·2 g.
1 lb. (avoirdupois)=8 chataks	=	453·6 g.
1 chatak=2 oz.	=	56·8 g.
1 oz. (avoirdupois)=2⅓ tolas	=	28·4 g.
1 tola	=	11·6 g.
1 kilogram or 1000 gms.	=	2·2 lbs.
100 gms.	=	3·5 oz. or 8·62 tolas.

The vitamin A and carotene figures were obtained by chemical and spectrographic methods of assay. The figures for total carotene obtained by solvent partition have been multiplied by the factor $\frac{10}{8}$ to arrive at the vitamin A value in international units. The protein values were obtained by multiplying the total

nitrogen figure by 6·25. The calorific values have been calculated from the protein, fat and carbohydrate (other than fibre) figure, by multiplying by 4, 9 and 4 respectively and adding up. Vitamin C was estimated chemically. In the case of vitamin B_1, mostly chemical and to a small extent biological methods were used. The absence of figures for estimates of vitamin content means that tests have not yet been carried out.

The main table dealing with the composition of foods is presented in three parts. The first part contains data on the protein, fat, carbohydrate and energy content of the foods ; the second part presents information on the mineral constituents (calcium, phosphorus, iron, magnesium, sodium, potassium, copper, chlorine sulphur, oxalic acid, phytin phosphorus, ionisable iron and acid-base balance) ; the third part gives the figures for vitamins (carotene, vitamin A, thiamine, riboflavin, nicotinic acid, pyridoxine, folic acid, choline, inositol and vitamin C). In the Appendix will be found information on the nutritive value of the food proteins, the essential amino-acid composition and the polyunsaturated fatty acid content of Indian edible fats. In Appendix IV the scientific name and the names in various Indian languages of the foods are presented. The same serial number is assigned to a food in the main table or in the Appendix. Where particular serial numbers, say under the vitamin tables, are lacking, it only means that no authentic Indian analytical figures are available for the missing foods.

The values given relate only to figures obtained by Indian workers and figures from other countries are not included.

TABLE OF FOOD VALUES

I. Proximate Principles and Energy.

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories.
1	2	3	4	5	6	7	8	9	10	11
	CEREALS AND GRAIN PRODUCTS									
1.	Bajra	Dehusked sample	84	12·4	11·6	5·0	2·3	1·2	67·5	356
2.	Barley	As purchased	100	12·5	11·5	1·3	1·2	3·9	69·6	336
3.	Barley, wild	As purchased	100	9·4	8·2	1·2	2·5	2·5	76·2	348
4.	Cholam	As purchased	100	11·9	10·4	1·9	1·6	1·6	72·6	349
5.	Italian millet	Dehusked sample	79	11·2	12·3	4·3	3·3	8·0	60·9	331
6.	"Kootu"	Dehusked sample	74	11·3	10·3	2·4	2·3	8·6	65·1	322
7.	Maize, tender	Grain only	37	67·1	4·7	0·9	0·8	1·9	24·6	125
8.	Maize, dry	As purchased	100	14·9	11·1	3·6	1·5	2·7	66·2	342
9.	Oatmeal	...	...	10·7	13·6	7·6	1·8	3·5	62·8	374
10.	Panivaragu	Dehusked sample	59	11·9	12·5	1·1	1·9	2·2	70·4	341
11.	Ragi	As purchased	100	13·1	7·3	1·3	2·7	3·6	72·0	328
12.	Rice, raw, home-pounded	As purchased	100	13·3	7·5	1·0	0·9	0·6	84·2	345
13.	Rice, raw, milled	As purchased	100	13·7	6·8	0·5	0·6	0·2	78·2	345
14.	Rice, parboiled, home-pounded	...	...	12·6	8·5	0·6	0·9	...	77·4	349
15.	Rice, parboiled, milled	As purchased	100	13·3	6·4	0·4	0·7	0·2	79·0	348
16.	Rice, raw, unmilled (prepared in wooden grinder)	...	...	14·1	7·2	2·3	1·3	...	75·1	350
17.	Rice, white, puttu	...	...	13·0	7·5	0·4	0·4	...	78·7	348
18.	Rice, black, puttu	...	...	12·3	7·7	1·3	1·3	0·7	76·7	349
19.	Rice bran	...	...	11·0	13·5	16·2	6·6	4·3	48·4	393

I. Proximate Principles and Energy. (*Contd.*)

Serial No	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	PER 100 G. OF EDIBLE PORTION Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
20.	Rice flakes	As purchased	100	12·2	6·6	1·2	2·0	0·7	77·3	346
21.	Rice, puffed	As purchased	100	14·7	7·5	0·1	3·8	0·3	73·6	325
22.	Samai	Dehusked sample	66	11·5	7·7	4·7	1·5	7·6	67·0	340
23.	Sanwa millet	...	...	11·9	6·2	2·2	4·4	9·8	65·5	307
24.	Suji	...	...	...	10·4	0·8	...	0·2	74·8	348
25.	Talipot flour, untreated	...	...	13·1	2·4	0·3	2·5	...	81·7	339
26.	Talipot flour, treated*	...	...	7·3	1·3	0·1	1·9	...	89·4	364
27.	Vermicelli	As purchased	100	11·7	8·7	0·4	0·7	0·2	78·3	352
28.	Varagu	Dehusked sample	58	12·8	8·3	1·4	2·6	9·0	65·9	307
29.	Wheat, whole	As purchased	100	12·8	11·8	1·5	1·5	1·2	71·2	346
30.	Wheat flour (whole) atta	As purchased	100	12·2	12·1	1·7	2·7	1·9	69·4	341
31.	Wheat flour (refined), maida	As purchased	100	13.3	11·0	0·9	0·6	0·3	73·9	348
		PULSES AND LEGUMES								
32.	Bengalgram, whole	As purchased	100	9·8	17·1	5·3	3·0	3·9	60·9	360
33.	Bengalgram, roasted, dehusked	As purchased	100	10·7	22·5	5·2	2·5	1·0	58·1	369
34.	Bengalgram dhal	As purchased	100	9·9	20·8	5·6	2·7	1·2	59·8	372
35.	"Bhetmas"	As purchased	...	8·8	41·3	17·0	4·5	4·3	24·1	415
36.	Blackgram dhal	As purchased	100	10·9	24·0	1·4	3·2	0·9	59·6	347
37.	Chavli, small	Dehusked sample	97	14·3	24·6	0·7	3·3	...	57·1	333
38.	Chavli, big	Dehusked sample	93	14·4	23·9	1·3	3·2	..	57·2	336
39.	Cowgram	As purchased	100	12·0	24·6	0·7	3·4	3·8	55·5	327
40.	Field bean, dry	As purchased	...	9·6	24·9	0·8	3·2	1·4	60·1	347

41.	Greengram, whole	As purchased	100	10·4	24·0	1·3	3·5	4·1	56·7	334
42.	Greengram dhal	As purchased	100	10·1	24·5	1·2	3·5	0·8	59·9	351
43.	Horsegram	As purchased	100	11·8	22·0	0·5	3·2	5·3	57·2	322
44.	Khesari dhal	As purchased	100	10·0	28·2	0·6	2·3	2·3	56·6	351
45.	Lentil	As purchased	100	12·4	25·1	0·7	2·1	0·7	59·0	343
46.	Mothbeans	As purchased	100	10·8	23·6	1·1	3·5	4·5	56·5	330
47.	Peas, dried	As purchased	100	16·0	19·7	1·1	2·2	4·5	56·5	315
48.	Peas, roasted	As purchased	100	10·1	22·9	11·4	2·4	4·4	58·1	340
49.	"Rajmah"	As purchased	...	12·0	22·9	1·3	3·2	...	60·6	346
50.	"Rawan"	As purchased	...	12·7	23·4	1·3	2·9	...	59·7	344
51.	Redgram	As purchased	100	13·4	22·3	1·7	3·5	1·5	57·6	355
52.	Soya bean	As purchased	...	8·1	43·2	19·5	4·6	3·7	20·9	432
53.	Sutari	As purchased	...	9·6	21·5	0·3	3·5	4·2	60·9	347

LEAFY VEGETABLES

54.	Agast-ka-phool	...	...	92·9	1·0	0·5	0·4	0·8	4·4	26
55.	Agathi	...	...	73·1	8·4	1·4	3·1	2·2	11·8	93
56.	Amaranth, tender	Leaves and tender stalk	39	85·7	4·0	0·5	2·7	1·0	6·3	46
57.	Amaranth, spined	...	...	85·0	3·0	0·3	2·6	1·1	7·0	43
58.	Ambat chuka	...	...	95·2	1·6	0·3	0·9	0·6	1·4	15
59.	Arai keerai	...	...	87·0	2·8	0·4	2·4	...	7·4	44
60.	Bakala, green	...	...	77·6	5·6	0·3	1·3	3·7	11·6	72
61.	Bamboo, tender shoots	Tender portions	54	88·8	3·9	0·5	1·1	...	5·7	43
62.	Bathua leaves	...	...	89·6	3·7	0·4	2·6	0·8	2·9	30
63.	Beet greens	Tender leaves	51	86·4	3·4	0·8	2·2	0·7	6·5	46
64.	Bengal gram leaves	Leaves only	92	73·4	7·0	1·4	2·1	2·0	14·9	97
65.	Bottlegourd leaves	Leaves and tender stem	...	87·9	2·3	0·7	1·7	1·3	6·1	39
66.	Brussels sprouts	As purchased	100	85·5	4·7	0·5	1·0	1·2	7·1	52
67.	Cabbage	All except the hard core	88	91·9	1·8	0·1	0·6	1·0	4·6	27
68.	Carrot leaves	Leaves only	51	76·6	5·1	0·5	2·8	1·9	13·1	77
69.	Cauliflower greens	...	...	80·0	5·9	1·3	3·2	2·0	7·6	66
70.	Celery leaves	Tender leaves only	71	88·0	6·3	0·6	2·1	1·4	1·6	37

*Soaked with 4 times its weight of water, allowed to settle overnight, supernatant liquid discarded and residue sun-dried.

PH 161 / I

I. Proximate Principles and Energy. (*Contd.*)

Serial No	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
71.	Ceylon pasali	...	...	91·2	1·9	0·7	1·9	...	4·3	31
72.	Chakravarti keerai	...	...	80·6	4·5	0·6	4·2	1·6	8·5	57
73.	Chekkur manis	Leaves only	100	73·6	6·8	3·2	3·4	1·4	11·6	103
74.	Chimti sag	...	...	83·2	3·2	0·7	3·9	2·1	6·9	46
75.	Chowli	Leaves	...	89·0	3·4	0·7	1·6	1·2	4·1	36
76.	Chozhi keerai	...	...	90·0	2·2	0·4	2·1	...	5·3	33
77.	"Colombo keera"	...	...	91·3	2·5	0·4	2·1	...	3·7	28
78.	Colocasia—black variety	Leaves	...	78·8	6·8	2·0	2·5	1·8	8·1	77
79.	Colocasia—green variety	Leaves	...	82·7	3·9	1·5	2·2	2·9	6·8	56
80.	Colocasia—black variety	Stem	...	95·7	0·4	0·1	0·6	0·5	2·7	13
81.	Colocasia—green variety	Stem	...	95·5	0·5	0·2	0·9	0·6	2·3	13
82.	Colocasia—green variety	Leaves and tender pulp of stem	89	87·9	4·0	1·2	1·7	1·0	4·2	44
83.	Colocasia leaves, dried	...	...	9·3	13·7	5·9	12·8	16·0	42·3	277
84.	Coriander leaves	Leaves and tender stalk	70	86·3	3·3	0·6	2·3	1·2	7·5	48
85.	Curry leaves	Leaves only	83	63·8	6·1	1·0	4·0	6·4	18·7	108
86.	Drumstick	Leaves only	75	75·9	6·7	1·7	2·3	0·9	12·5	92
87.	Fenugreek	Leaves only	59	86·1	4·4	0·9	1·5	1·1	6·0	49
88.	Fetid cassia	...	...	84·9	5·0	0·8	1·7	2·1	5·4	48
89.	Fetid cassia, dried	...	...	9·7	20·7	3·9	11·8	10·4	43·5	292
90.	Garden cress	...	...	82·3	5·8	1·0	2·2	...	8·7	67
91.	Garden sorrel (sepals)	...	100	91·9	0·6	0·2	0·9	1·3	5·1	25
92.	Giria sag (Moras)	...	...	89·3	2·0	0·4	3·8	0·9	3·6	25

93.	Gogu	Leaves and tender stalk	76	86·4	1·7	1·1	0·9	...	9·9	56
94.	Gulcharni	...	...	91·7	1·3	0·5	1·2	1·0	4·3	27
95.	Gram leaves	...	...	60·0	8·2	0·5	3·5	...	27·2	146
96.	Ipomoea leaves	...	...	90·3	2·9	0·4	2·1	1·2	3·1	33
97.	Jute plant	...	...	83·6	6·0	1·0	1·8	2·8	4·8	52
98.	Kasini keerai	...	...	91·2	1·9	0·7	1·6	...	4·6	33
99.	Kalavan keerai	...	...	75·2	6·8	0·9	4·3	2·3	10·5	77
100.	Karsnanganni keerai (white)	...	...	81·1	4·4	0·8	4·5	...	9·3	62
101.	Karsnanganni keerai (yellow)	...	...	93·7	1·1	0·2	1·4	0·4	3·2	19
102.	Katha sag	...	...	90·6	1·9	0·5	2·3	1·7	3·0	25
103.	Kena sag	...	...	92·2	2·1	0·4	2·0	0·8	2·5	21
104.	Khesari leaves	...	...	84·2	6·1	1·0	1·1	2·1	5·5	55
105.	Knol khol greens	Leaves only	73	86·7	3·5	0·4	1·2	1·8	6·3	42
106.	Koila karha sag	...	...	87·2	3·0	0·4	2·8	1·4	5·2	36
107.	Konar sag	...	...	78·1	3·6	1·0	2·1	5·5	9·7	62
108.	Koya keerai	...	...	88·0	2·8	0·5	1·2	2·2	5·3	37
109.	Kulfa	...	...	92·2	1·3	0·3	...	0·8	3·6	22
110.	Kuppameni	...	...	80·5	6·7	1·4	3·1	2·3	6·0	64
111.	Kuppakeerai	...	...	81·8	5·2	0·3	2·8	6·1	3·8	38
112.	Lettuce	Leaves only	66	93·4	2·1	0·3	1·2	0·5	2·5	22
113.	Lettuce tree leaves, tender	...	...	90·2	3·6	0·2	2·2	0·6	3·2	29
114.	Lettuce tree leaves, mature	...	...	81·7	5·1	0·4	2·6	...	10·2	65
115.	Love-lies-bleeding	...	...	90·0	3·0	0·7	3·3	1·0	2·1	26
116.	Manal keerai	...	...	91·7	2·4	0·4	1·0	2·2	2·3	22
117.	"Manathakkali"	...	...	82·1	5·9	1·0	2·1	...	8·9	68
118.	Mata sag	...	...	7·2	7·2	4·8	9·5	13·5	57·9	303
119.	Mayalu	...	...	90·8	2·8	0·4	1·8	...	4·2	31
120.	Minmini keerai	...	...	80·0	5·6	0·4	3·3	2·4	8·3	60
121.	Mint	Leaves and tender stem	45	84·9	4·8	0·6	1·9	2·0	5·8	47
122.	Modakathan keerai	...	...	83·3	4·7	0·6	2·3	...	9·1	58
123.	Mukarratai	...	...	84·5	6·1	0·9	1·3	...	...	65

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
124.	Mustard leaves	...	...	89·8	4·0	0·6	1·6	0·8	3·2	33
125.	Nachukottai keerai	...	...	82·6	4·3	0·7	3·3	...	9·1	60
126.	Neem, mature	...	...	59·4	7·1	1·0	3·4	6·2	22·9	129
127.	Neem, tender	Leaves and young shoots	100	59·4	11·6	3·0	2·6	2·2	21·2	158
128.	Nerringi	...	...	79·1	7·2	0·5	4·6	...	...	93
129.	Nisorha ka phool	...	...	79·6	4·7	0·5	2·6	3·3	9·3	61
130.	Onion tops	...	...	90·3	1·2	0·8	1·0	1·4	5·3	33
131.	Pacharisi keerai	...	...	78·1	4·7	1·7	3·2	...	...	120
132.	Panna keera	...	...	85·0	3·8	0·6	2·3	2·3	6·0	44
133.	Parsley	Young leaves	82	74·6	5·9	1·0	3·2	1·8	13·5	87
134.	Parwar sag	...	...	80·5	5·4	1·1	3·0	4·2	5·8	55
135.	Patua sag	...	...	81·4	5·1	1·1	2·7	1·6	8·1	63
136.	Paruppukeerai	Leaves and tender stem	51	90·5	2·4	0·6	2·3	1·3	2·9	26
137.	Pasarai keerai	...	...	86·0	1·7	0·4	1·8	2·2	7·9	42
138.	Ponnanganni leaves	...	...	77·4	5·0	0·7	2·5	2·8	11·6	73
139.	Potato leaves	...	...	88·0	4·4	0·9	1·8	1·3	3·6	40
140.	Puliara keerai	...	...	85·0	4·3	1·5	2·0	...	7·2	60
141.	Pumpkin leaves	...	...	81·9	4·6	0·8	2·7	2·1	7·7	56
142.	Pumpkin flowers	...	...	89·1	2·2	0·8	1·4	0·7	5·7	38
143.	Punnaku keerai	...	...	80·6	6·1	0·7	2·5	...	...	48
144.	Radish tops		...	90·3	2·7	0·6	2·1	0·9	3·4	30
145.	Rajagira leaves	...	...	78·6	5·9	1·0	3·8	2·1	8·6	67
146.	Rape leaves	...	...	84·9	5·1	0·4	2·5	1·2	5·9	48
147.	Rape leaves, dried	...	...	7·4	27·0	2·9	15·3	6·7	40·7	297
148.	Safflower leaves	Leaves only	66	91·1	2·5	0·6	1·3	...	4·5	33
149.	Sanhemp flower	...	...	78·9	4·8	0·6	1·4	3·9	10·4	65
150.	Saranti sag	...	...	85·4	4·1	0·7	3·5	1·6	4·7	42

151.	Saravallai keerai	...	...	91·3	2·0	0·4	2·2	0·9	3·2	23
152.	Sarlisag	Tender leaves and stalk	...	76·9	4·0	1·1	1·6	1·5	14·9	85
153.	Sarlisag (lupu) dried	...	...	7·5	7·7	6·1	7·7	13·4	57·7	316
154.	Seemai ponnanganni	...	...	85·7	3·3	0·8	2·7	...	7·5	50
155.	Silk cotton flowers	Tender flowers	...	86·4	1·5	0·3	0·7	1·6	9·5	47
156.	Shepu	...	...	88·0	3·0	0·5	2·2	1·1	5·2	37
157.	Sinduar sag (cultivated)	...	...	88·0	2·0	0·7	2·0	1·5	5·8	37
158.	Sinduar sag (wild)	...	...	87·4	1·1	0·8	2·6	3·7	4·4	29
159.	Sirukeerai	...	...	90·0	2·8	0·3	2·1	...	4·8	33
160.	Sonchal saag	...	100	86·2	4·3	0·6	2·1	1·2	5·6	45
161.	Spinach	Leaves only	87	92·1	2·0	0·7	1·7	0·6	2·9	26
162.	Soya leaves	...	...	79·5	6·0	0·5	3·2	...	10·8	72
163.	Sowa sag	...	...	85·2	3·4	0·7	2·5	1·5	6·7	46
164.	Susni sag	...	...	86·9	3·7	1·4	2·1	1·3	4·6	46
165.	Sweet potato greens	Leaves only	100	80·7	4·2	0·8	2·2	2·4	10·7	67
166.	Table radish leaves	Leaves only	49	89·1	3·9	0·6	1·6	0·6	4·2	37
167.	Tamarind leaves, tender	Leaves only	100	70·5	5·8	2·1	1·5	1·9	18·2	115
168.	Tamarind shoots, tender	...	...	8·9	8·6	3·0	8·5	10·1	60·9	295
169.	Takla	...	...	82·5	4·5	1·2	1·7	2·2	7·9	60
170.	Thuthi keerai	...	...	75·0	6·7	1·0	4·4	...	12·9	87
171.	Thooduvalai keerai	...	...	84·7	3·9	0·7	3·8	2·3	4·6	40
172.	Turnip greens	Leaves only	51	81·9	4·0	1·5	2·2	1·0	9·4	68
173.	Utarba	...	...	85·9	4·2	0·6	1·7	2·0	5·6	44
174.	Vadhanarayanan keerai	...	...	75·0	7·7	1·1	1·8	...	14·4	98
175.	Veethi keerai	...	...	72·2	7·5	0·7	4·0	2·2	13·4	90
176.	Velai keerai	...	...	80·0	6·5	0·8	3·9	...	8·8	68
177.	Vella keerai	...	...	80·4	5·6	1·9	3·8	...	...	93
178.	Vellari keerai	...	...	84·5	2·1	0·5	2·7	4·2	6·0	36
179.	Watercress	...	...	89·2	2·9	0·2	2·2	0·6	4·9	33
180.	Waterlily flowers	...	...	90·8	1·6	0·6	0·7	0·9	5·4	33

ROOTS AND TUBERS

181.	"Arwa Gadda"	...	...	74·3	1·4	0·1	0·6	...	23·6	101
182.	Banana rhizome	Tender fleshy portions	35	85·1	0·4	0·2	1·4	1·1	11·8	51

I. Proximate Principles and Energy. *(Contd.)*

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
183.	Beet root	All except the central stub	85	87·7	1·7	0·1	0·8	0·9	8·8	43
184.	Bokwa	...	...	79·6	2·9	0·3	0·8	0·9	15·6	77
185.	Bola	...	...	67·6	4·5	0·8	1·3	1·1	24·7	124
186.	Budhia	...	...	66·5	0·7	0·4	0·9	1·6	29·9	126
187.	Canna, edible	Fleshy portions only	73	73·0	1·1	0·4	1·0	0·5	24·0	104
188.	Carrot	All except the stalk	95	86·0	0·9	0·2	1·1	1·2	10·6	47
189.	Chumbia	...	...	66·7	1·8	0·2	1·0	1·5	29·0	125
190.	Churkiyan baiyang	...	...	83·7	1·6	0·1	0·6	1·2	12·8	59
191.	Colocasia	...	...	73·1	3·0	0·1	1·7	1·0	21·1	97
192.	Epedong sanga	...	...	91·6	2·2	0·2	1·6	2·7	1·7	18
193.	Goti gadda	Inner white tuber	69	44·1	7·5	0·3	1·5	0·8	45·8	212
194.	Jipoo sanga	...	...	94·1	0·6	0·1	0·2	0·4	4·6	21
195.	Kapu sanga	...	...	67·8	3·3	0·2	1·3	1·0	26·4	121
196.	Khamealu	...	...	79·6	1·3	0·1	0·8	0·1	17·8	77
197.	Lotus root	...	...	85·9	1·7	0·1	0·2	0·8	11·3	49
198.	Mangoginger	All except the outer brown coat	87	85·0	1·1	0·7	1·4	1·3	10·5	52
199.	Moor sanga dhak	...	...	45·4	2·1	0·3	0·6	1·6	50·0	211
200.	Murum sanga	...	...	82·5	1·4	0·1	0·6	0·7	14·7	65
201.	"Nulu gadda"	...	...	76·8	1·1	0·2	0·5	...	21·4	92
202.	Ochen sanga	...	...	88·6	1·5	0·1	1·1	1·1	7·6	13
203.	"Onthalai gasu"	...	...	84·4	1·2	0·1	0·3	...	14·0	62
204.	Onion, big	...	...	86·8	1·2	...	0·4	0·6	11·0	49
205.	Onion, small	...	...	84·3	1·8	0·1	0·6	0·6	12·6	59
206.	Parsnip	...	...	72·4	1·3	0·3	1·1	1·7	23·2	101

207.	Potato	Whole, including skin	100	74·7	1·6	0·1	0·6	0·4	22·6	97
208.	Radish, white	All except the small rootlets	99	94·4	0·7	0·1	0·6	0·8	3·4	17
209.	Radish, pink	All except the small rootlets	98	90·8	0·6	0·3	0·9	0·6	6·8	32
210.	Radish, rat-tailed	...	...	92·3	1·3	0·3	0·7	1·1	4·3	25
211.	Song	...	...	65·0	2·3	0·1	1·0	0·7	30·9	130
212.	Sweet potato	...	...	68·5	1·2	0·3	1·0	0·8	28·2	120
213.	Tapioca	...	...	59·4	0·7	0·2	1·0	0·6	38·7	159
214.	Tapioca chips, dried	As purchased	100	12·0	1·3	0·3	2·0	1·8	82·6	338
215.	Tigo	...	...	85·8	2·7	0·1	0·6	0·8	9·9	51
216.	Turnip	All except hard core	65	91·6	0·5	0·2	0·6	0·9	6·2	29
217.	Turum sangha	...	...	66·4	1·9	0·4	1·7	1·6	28·0	123
218.	Usingid	...	...	80·0	1·9	0·9	2·6	3·6	11·0	60
219.	Yam (ordinary)	...	...	69·9	1·4	0·1	1·6	1·0	26·0	111
220.	Yam (elephant)	...	...	78·7	1·2	0·1	0·8	0·8	18·4	79
221.	Yam, wild	All except outer skin	89	70·4	2·5	0·3	1·4	1·0	24·4	114
222.	Water lily, white	...	...	62·5	3·1	0·3	1·3	1·1	31·7	142
223.	Water lily, red	...	...	49·1	4·1	0·3	1·6	1·5	43·4	193
	OTHER VEGETABLES.									
224.	Amaranth, stem	...	...	92·5	0·9	0·1	1·8	1·2	3·5	19
225.	Amaranth seeds (Arakkeerai)	As purchased	100	9·9	13·3	2·5	3·7	8·4	62·2	325
226.	Amaranth seeds (Thandukkeerai)	As purchased	100	10·0	16·3	2·1	2·7	8·9	60·1	324
227.	Amaranth seeds (Sirukeerai)	As purchased	100	10·1	14·4	1·0	2·8	11·4	60·1	307
228.	Artichoke	...	...	77·3	3·6	0·1	1·8	1·2	16·0	79
229.	Ashgourd	All except seeds and outer coat	67	96·5	0·4	0·1	0·3	0·8	1·9	10
230.	Bagnaha	...	...	67·0	6·1	3·8	2·0	9·6	11·7	105
231.	Beans, runner or scarlet	...	59	58·3	7·4	1·0	1·6	1·9	29·8	157

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Mineral g.	Fibre g.	Other carbohydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
232.	Bittergourd	All except seeds and stalk	97	92·4	1·6	0·2	0·8	0·8	4·2	25
233.	Bittergourd small variety	All except seeds and stalk	93	83·2	2·1	1·0	1·4	1·7	9·8	60
234.	Brinjal	All except the stalk and the calyx	91	92·7	1·4	0·3	0·3	1·3	4·0	24
235.	Broad beans	All except the fibrous outer coat	88	85·4	4·5	0·1	0·8	2·0	7·2	48
236.	Calabash cucumber	Stalk and outer skin discarded	86	96·1	0·2	0·1	0·5	0·6	2·5	12
237.	Cauliflower	All except stalk and central core	70	90·8	2·6	0·4	1·0	1·2	4·0	30
238.	Celery stalks	...	...	93·5	0·8	0·1	0·9	1·2	3·5	18
239.	Chaltha	...	...	82·3	0·8	0·2	0·8	2·5	13·4	59
240.	"Cho-cho" marrow	...	...	92·5	0·7	0·1	0·4	0·6	5·7	27
241.	Cluster beans	...	...	81·0	3·2	0·4	1·4	3·2	11·0	59
242.	Colocasia stems	All except the fibrous outer coat	86	94·0	0·3	0·3	1·2	0·6	4·2	21
243.	Cowpea pod (red)	...	...	84·6	4·3	0·2	0·9	2·0	8·0	51
244.	Cowpea pod (white)	...	..	85·9	2·6	0·2	0·8	2·0	8·7	47
245.	Cucumber	All except the outer coat and stalk end	83	96·3	0·4	0·1	0·3	0·4	2·5	13
246.	Daincha seeds	...	100	10·8	28·1	3·8	3·8	8·6	46·1	330
247.	Double beans	...	...	73·8	8·3	0·3	1·0	4·3	12·3	85
248.	Drumstick	Pulp only	83	86·9	2·5	0·1	2·0	4·8	3·7	26
249.	Field beans, tender	All except outer coat	93	86·1	3·8	0·7	0·9	1·8	6·7	48

250.	Figs, red	...	...	79·4	1·2	0·6	1·6	6·4	10·8	53
251.	French beans	The ends and fibrous joint discarded	94	91·4	1·7	0·1	0·5	1·8	4·5	26
252.	Ghosala	...	...	93·2	1·2	0·2	0·5	2·0	2·9	18
253.	Giant chillies	All except stalk	97	92·4	1·3	0·3	0·7	1·0	4·3	25
254.	Green papaya	...	...	91·4	0·9	0·1	0·5	0·9	6·2	29
255.	Ipomoea stems	...	...	93·7	0·9	0·2	1·8	...	3·4	19
256.	Jack, tender	...	...	84·0	2·6	0·3	0·9	2·8	9·4	51
257.	Jackfruit seeds	...	...	64·5	6·6	0·4	1·2	1·5	25·8	133
258.	Kachha Booroi	...	...	81·1	1·5	0·2	0·8	2·3	14·1	64
259.	Kandan kathiri	...	...	75·5	3·1	0·8	1·6	14·2	4·8	39
260.	Kankoda	...	...	84·1	3·1	1·0	1·1	3·0	7·7	52
261.	Karonda	...	...	91·0	1·1	2·9	0·6	1·5	2·9	42
262.	Kheksa (big), hilly variety	...	...	90·4	0·6	0·1	0·9	1·6	6·4	29
263.	Kovai fruit, tender	All except the stalk stubs	96	93·5	1·2	0·1	0·5	1·6	3·1	18
264.	Knol-khol	All except the stalk and rootlets	74	92·7	1·1	0·2	0·7	1·5	3·8	27
265.	Kutcha barhar	...	...	89·4	1·6	1·2	1·1	2·8	13·9	73
266.	Ladies fingers	All except the tip and the stalk end	84	89·6	1·9	0·2	0·7	1·2	6·4	35
267.	Lama-ke-Biyaka gudda	...	...	25·5	23·7	28·2	3·0	2·3	17·3	418
268.	Leeks	...	...	78·9	1·8	0·1	0·7	1·3	17·2	77
269.	Mahua fruits	...	...	74·4	2·2	1·2	1·1	1·5	19·7	98
270.	Mango, green	Seed discarded	72	87·5	0·7	0·1	0·4	1·2	10·1	44
271.	Mango seed kernel (Totapuri)	The hard seed coat discarded	56	63·2	2·2	3·3	1·2	1·0	29·1	155
272.	Mango seed kernel (Neelam)	The hard seed coat discarded	54	47·1	2·6	5·1	1·4	0·8	43·0	228
273.	Mogra (red variety)	...	...	91·8	2·3	0·5	1·0	1·3	3·1	26
274.	Mogra (green variety)	...	...	91·8	1·6	0·4	0·6	1·2	4·5	27
275.	Mushroom, paddy straw	All except the stem ends.	88	88·6	3·8	0·7	1·4	0·4	5·1	42
276.	Nellikai	Seeds discarded	89	81·8	0·5	0·1	0·5	3·4	13·7	58

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Mineral g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
277.	Nut of avocado pear	...	...	63·7	2·5	0·7	1·1	...	32·0	144
278.	Onion stalks	As purchased	100	87·6	0·9	0·2	0·8	1·6	8·9	41
279.	"Parwar"	...	95	92·0	2·0	0·3	0·5	3·0	2·2	20
280.	Peas, English	Pods discarded	53	72·0	7·2	0·1	0·8	4·0	15·8	93
281.	Pink beans	Pods rejected	94	86·8	3·1	0·4	0·6	2·1	7·0	44
282.	Plantain flower	The sheaths, central stalk in each flower and the stub discarded.	43	89·9	1·7	0·7	1·3	1·3	5·1	33
283.	Plantain, green	The stalk, ends and rind discarded.	58	83·2	1·4	0·2	0·5	0·7	14·0	64
284.	Plaintain, stem	...	...	88·3	0·5	0·1	0·6	0·8	9·7	42
285.	Pumpkin	All except seeds and outer coat.	79	92·6	1·4	0·1	0·6	0·7	4·6	25
286.	Radish, table	Bulb only	100	94·9	0·5	0·1	0·7	0·6	3·3	16
287.	Radish tops, green pods	...	...	89·5	1·9	0·6	1·0	1·2	5·9	37
288.	Rape plant stem	...	...	91·4	3·1	0·1	1·4	...	4·0	29
289.	Redgram, tender	...	72	65·1	9·8	1·0	1·0	6·2	16·9	116
290.	Rhubarb stalks	...	...	92·7	1·1	0·5	1·1	0·3	3·7	24
291.	Ridge gourd	Outer coat and stalk rejected	82	95·2	0·5	0·1	0·3	0·5	3·4	17
292.	Sanga ka phal	...	...	73·4	1·5	0·1	0·9	1·0	23·1	99
293.	Seaweed-Gracilaria	Fresh weed after cleaning	100	90·0	0·9	0·2	5·2	0·4	3·3	19
294.	Seaweed-Gracilaria	Dry powder	100	6·3	12·5	0·8	25·4	5·4	49·7	246
295.	Seaweed-Hypnea	Fresh	100	92·7	0·7	0·2	2·5	0·3	3·6	19
296.	Seaweed-Hypnea	Dry powder	100	12·8	10·1	0·9	18·0	4·6	54·1	265

297.	Seaweed-Ulva	Fresh	100	90·7	0·7	0·2	4·4	0·3	3·7	19
298.	Seaweed-Ulva	Dry powder	100	9·5	9·7	0·3	24·7	5·2	50·6	244
299.	Snakegourd	Seeds rejected	98	94·6	0·5	0·3	0·5	0·8	3·3	18
300.	Spinach stalks	...	...	93·4	0·9	0·1	1·8	...	3·8	20
301.	"Sundakai" dry	...	...	12·3	8·3	1·7	5·1	17·6	55·0	269
302.	Sword beans	...	98	87·2	2·7	0·2	0·6	1·5	6·4	38
303.	Tetrolobar bean	...	...	90·6	1·9	0·4	0·5	1·8	4·9	31
304.	Tinda, tender	Stalk end rejected	99	93·5	1·4	0·2	0·5	1·0	3·4	21
305.	Tomato, green	...	98	93·1	1·9	0·1	0·6	0·7	3·6	23
306.	Vegetable marrow	...	94	94·8	0·5	0·1	0·3	0·8	4·3	20
307.	Water chestnut	Raw	38	70·0	4·7	0·3	1·1	0·6	23·3	115
308.	Water chestnut	Boiled	38	77·8	...	...	...	0·3	15·8	...

NUTS AND OIL SEEDS

309.	Almond	...	...	5·2	20·8	58·9	2·9	1·7	10·5	655
310.	Cashewnut	...	...	5·9	21·2	46·9	2·4	1·3	22·3	596
311.	Charoli seeds	As purchased	100	3·0	19·0	59·1	3·0	3·8	12·1	655
312.	Coconut, dry	...	...	4·3	6·8	62·3	1·6	6·6	18·4	661
313.	Garden cress seeds	As purchased	100	3·2	25·3	24·5	6·4	7·6	33·0	454
314,	Gingelly seeds	As purchased	100	5·3	18·3	43·3	5·2	2·9	25·0	563
315.	Groundnut	...	...	7·9	26·7	40·1	1·9	3·1	20·3	549
316.	Groundnut, roasted	White kernel only	100	4·0	31·5	39·8	2·3	3·1	19·3	561
317.	Jungli Badam	Kernel only	10	35·6	11·4	35·5	2·4	...	...	...
318.	Kusumb seeds	...	...	5·5	13·5	25·6	2·6	34·9	17·9	356
319.	Linseeds	...	99	6·5	20·3	37·1	2·4	4·8	28·8	530
320.	Mustard seeds	...	...	8·5	22·0	39·7	4·2	1·8	23·8	541
321.	Niger seed	...	...	4·2	23·9	39·0	4·9	10·9	17·1	515
322.	Oysternut	...	...	4·4	29·7	63·3	2·6	...	...	689
323.	Pistachio nut	...	...	5·6	19·8	53·5	2·8	2·1	16·2	626
324.	Sunflower seeds	Kernel only	52	5·5	19·8	52·1	3·7	1·0	17·9	620
325.	Walnut	...	45	4·5	15·6	64·5	1·8	2·6	11·0	687

CONDIMENTS, SPICES ETC.

326.	Arisithippili	...	...	12·5	13·2	4·7	6·0	5·2	58·4	329
327.	Asafoetida	...	...	16·0	4·0	1·1	7·0	4·1	67·8	297

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	PER 100 g. OF EDIBLE PORTION Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
328.	Cardamom	...	...	20·0	10·2	2·2	5·4	20·1	42·1	229
329.	Chillies, green	All but the stalks	90	85·7	2·9	0·6	1·0	6·8	3·0	29
330.	Chillies, dry	...	...	10·0	15·9	6·2	6·1	30·2	31·6	246
331.	Cloves, dry	As purchased	100	25·2	5·2	8·9	5·2	9·5	46·0	285
332.	Cloves, green	...	...	65·5	2·3	5·9	2·2	...	24·1	159
333.	Coriander	...	...	11·2	14·1	16·1	4·4	32·6	21·6	288
334.	Cumin seeds	...	...	11·9	18·7	15·0	5·8	12·0	36·6	356
335.	Fenugreek seeds	...	...	13·7	26·2	5·8	3·0	7·2	44·1	333
336.	Garlic, dry	All except the outer peel	85	62·0	6·3	0·1	1·0	0·8	29·0	142
337.	Ginger, fresh	...	...	80·9	2·3	0·9	1·2	2·4	12·3	67
338.	Kandanthippili	...	...	12·2	6·4	2·3	4·8	8·5	65·8	310
339.	Lime peel	...	...	66·5	1·8	0·5	1·8	...	29·4	129
340.	Mace	...	...	15·9	6·5	24·4	1·6	3·8	47·8	437
341.	Nutmeg	...	...	14·3	7·5	36·4	1·7	11·6	28·5	472
342.	Nutmeg rind	...	...	86·8	1·0	0·4	0·6	...	11·2	52
343.	Omum	...	...	7·4	17·1	21·8	7·9	21·2	24·6	363
344.	Pepper, green	Stalks discarded	81	70·6	4·8	2·7	1·8	6·4	13·7	98
345.	Pepper, dry	...	...	13·2	11·5	6·8	4·4	14·9	49·5	305
346.	Tamarind pulp	...	...	20·9	3·1	0·1	2·9	5·6	67·4	283
347.	Turmeric	...	...	13·1	6·3	5·1	3·5	2·6	69·4	349
	FRUITS AND FRUIT PRODUCTS									
348.	Ambada	...	...	90·3	0·7	3·0	0·5	1·0	4·5	47
349.	Apple	All except the core and stalk	90	85·2	0·3	0·1	0·3	0·8	13·3	55
350.	Apple, Ambri sev	...	...	82·7	0·2	0·5	0·4	1·3	14·9	65
351.	Apple, Desi sev	...	...	86·7	0·1	0·3	0·3	0·4	12·2	52

352.	Apple, golden sev	...	...	83·4	0·2	0·8	0·3	1·3	14·0	64
353.	Apple, kotgarh sev	...	...	84·8	0·2	0·3	0·3	0·9	13·5	57
354.	Apple, Kulu sev	...	...	86·4	0·2	0·3	0·3	1·0	11·8	51
355.	Apple, Maharaji sev	...	...	84·3	0·1	0·9	0·3	1·1	13·3	59
356.	Apple, Red Royal large	...	...	83·8	0·1	0·8	0·3	1·2	13·8	63
357.	Apricots, fresh	Whole fruit except the seed	86	85·3	1·0	0·3	0·7	1·1	11·6	53
358.	Apricots, dried	Whole fruit-pulp only	93	19·4	1·6	0·7	2·8	2·1	73·3	305
359.	Bael fruit	Pulp only ; seeds and shell discarded	64	61·5	1·8	0·3	1·7	2·9	31·8	137
360.	Baincha	...	...	67·8	1·7	1·8	1·3	4·7	22·7	114
361.	Bamboo fruit	...	...	56·3	3·9	0·1	1·6	3·9	34·2	174
362.	Banana, ordinary	Peel rejected	74	73·4	1·1	0·1	0·7	...	24·7	104
363.	Banana "Anaikombu" hill variety	Peel rejected	...	79·9	1·2	0·1	0·8	...	18·0	78
364.	Banana, chitridar kela	Peel rejected	...	79·6	0·7	0·4	0·7	0·4	18·2	79
365.	Banana, green variety	Peel rejected	...	73·2	0·8	0·8	0·8	..	24·4	107
366.	Banana, Krishna vazhai	Peel rejected	73	64·8	1·6	0·5	0·9	0·7	31·4	136
367.	Banana, Laden	Peel rejected	68	68·0	1·0	0·2	0·9	0·4	29·5	124
368.	Banana, Nendran	Peel rejected	...	61·4	1·3	0·2	0·7	...	36·4	153
369.	Banana, Pachanadan	Peel rejected	72	66·4	1·5	0·2	0·8	0·2	30·9	132
370.	Banana, Raja vazhai	Peel rejected	64	66·0	1·2	0·2	0·7	0·5	31·5	132
371.	Banana, Rasthali	Peel rejected	83	74·4	1·1	0·2	0·8	0·3	23·2	99
372.	Banana, Red variety	Peel rejected	69	75·6	1·3	0·3	0·8	0·4	21·6	94
373.	Banana, Thenkadali	Peel rejected	66	67·2	1·5	0·2	1·0	0·4	29·6	127
374.	Banana, Thenkunnan	Peel rejected	79	59·9	1·5	0·1	0·9	0·3	37·4	156
375.	Banana, vellakadali	Peel rejected	67	66·8	1·4	0·3	0·9	0·8	29·9	128
376.	Banana, yellow large	Peel rejected	...	75·4	0·8	0·5	0·8	...	22·5	98
377.	Banana, yellow small	Peel rejected	...	69·6	0·9	0·5	0·7	...	28·3	121
378.	Barhar	Peel and seed rejected	76	82·1	0·7	1·1	0·8	2·0	13·3	66
379.	Banyan tree figs	...	...	74·1	1·7	2·0	1·9	8·5	11·8	72
380.	Bastard lichi	...	...	83·9	1·4	0·3	0·8	0·5	13·1	61
381.	Bid root	...	...	47·7	2·1	0·3	1·1	0·9	48·0	203

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
382.	Bilimbi	As purchased	100	94·4	0·5	0·3	0·3	1·0	3·5	19
383.	Blackberry	As purchased	100	87·2	1·3	0·5	0·5	3·8	6·7	37
384.	Bor	...	...	81·6	0·8	0·3	0·3	...	16·8	74
385.	Borooee	...	...	74·1	2·0	0·3	1·3	4·7	17·6	81
386.	Bread fruit	...	...	79·5	1·5	0·2	0·9	2·1	15·8	71
387.	Bullock's heart	...	72	76·8	1·4	0·2	0·7	5·2	15·7	70
388.	Cape gooseberry	Flesh, skin and seeds	87	82·9	1·8	0·2	0·8	3·2	11·1	53
389.	Cashew apple, fleshy peduncle	...	...	86·2	0·8	0·6	0·4	0·9	11·1	53
390.	Cashew fruit	...	77	86·3	0·2	0·1	0·2	0·9	11·6	48
391.	Cherries, red	...	88	83·4	1·1	0·5	0·8	0·4	13·8	64
392.	Chibhood	...	...	95·1	0·3	0·2	0·6	0·7	3·0	15
393.	Cherimoyer	All except the central core and seeds	73	76·4	1·3	0·3	0·3	1·5	20·3	89
394.	Currants, black	...	98	18·4	2·7	0·5	2·2	1·0	75·2	316
395.	Dates, dried	Seeds rejected	86	15·3	2·5	0·4	2·1	3·9	75·8	317
396.	Dates, preserved (Persian)	Seeds rejected	...	26·1	3·0	0·2	1·3	2·1	67·3	283
397.	Dates (Indian)	...	...	59·2	1·2	0·4	1·7	3·7	33·8	144
398.	Durain, ripe	...	...	58·0	2·8	3·9	1·2	...	34·1	183
399.	Figs	...	99	88·1	1·3	0·2	0·6	2·2	7·6	37
400.	Gab	...	...	69·6	1·4	0·1	0·8	1·5	27·6	113
401.	"Galgal" (sour lime)	...	72	91·5	0·6	0·3	0·4	0·6	6·6	32
402.	Grapes (blue variety)	...	...	82·2	0·6	0·4	0·9	2·8	13·1	58
403.	Grapes (pale green variety)	...	...	79·2	0·5	0·3	0·6	2·9	16·5	71
404.	Grape fruit (Triumph)	...	...	92·0	0·7	0·1	0·2	...	7·1	32

405.	Grape fruit (Marsh's seedless)	...	...	88·5	1·0	0·1	0·4	...	10·0	45
406.	Guava, country	As purchased	100	81·7	0·9	0·3	0·7	5·2	11·2	51
407.	Guava, hill	...	...	85·3	0·1	0·2	0·6	4·8	8·1	38
408.	Guava, Japanese	Whole	100	80·4	0·6	0·3	0·7	6·2	11·8	52
409.	Harfarowrie	...	...	91·2	0·7	0·6	0·5	1·1	5·9	32
410.	Hoormed	...	...	16·0	2·8	1·1	0·9	2·3	76·9	329
411.	Indian prune, ripe and fresh	...	...	85·3	0·5	0·3	0·6	0·5	12·8	56
412.	Jackfruit	...	30	76·2	1·9	0·1	0·9	1·1	19·8	88
413.	Jam	...	...	93·5	0·1	0·4	0·1	2·2	3·7	18
414.	Jamun, big	...	...	87·9	0·4	0·2	0·3	0·3	10·9	47
415.	Jambu fruit	Pulp only	75	83·7	0·7	0·3	0·4	0·9	14·0	62
416.	Jurmata	...	...	46·0	4·8	0·3	2·2	3·4	43·3	195
417.	Kamrak	...	...	91·9	0·7	0·1	0·4	0·8	6·1	28
418.	"Karwanda", green	...	98	80·8	...	...	...	...	...	...
419.	"Karwanda", dry	...	...	18·2	2·3	9·6	2·8	...	67·1	364
420.	Kesaur	...	...	80·2	1·6	0·1	0·5	0·6	17·0	75
421.	"Kila pazham", small	...	...	79·5	0·8	0·6	0·3	7·3	11·5	55
422.	"Korukkapalli"	Peels and seeds rejected	60	79·2	2·7	0·4	0·7	1·0	16·0	78
423.	Kusum fruits	...	...	86·2	1·5	0·8	1·0	0·6	9·9	53
424.	Langsat	Pulp only	58	86·5	0·8	0·3	0·6	2·3	9·5	44
425.	Lemon, sour	...	97	88·2	0·6	0·7	0·8	1·5	8·2	42
426.	Lemon, sweet	...	79	90·5	0·7	0·3	0·5	0·7	7·3	35
427.	Lemon	...	...	85·0	1·0	0·9	0·3	1·7	11·1	57
428.	Lichis	Pulp only	68	84·1	1·1	0·2	0·5	0·5	13·6	57
430.	Lime	...	...	84·6	1·5	1·0	0·7	1·3	10·9	59
431.	Lime, sweet, Musammi	...	71	88·4	0·8	0·3	0·7	0·5	9·3	43
432.	Loquat	...	76	88·2	0·6	0·3	0·5	0·8	9·6	43
433.	Lotus seeds, green and mature	...	...	84·6	3·9	0·7	1·1	0·9	8·9	58
434.	Mahua, ripe	...	...	73·6	1·4	1·6	0·7	...	22·7	...
435.	Malta, sweet lime	...	67	90·3	0·7	0·2	0·4	0·6	7·8	36
436.	Mango, ripe	...	58	86·1	0·6	0·1	0·3	1·1	11·8	50
437.	Mango, Alphonso, Bulsar	...	...	79·6	0·5	0·8	0·5	0·4	18·3	81

I. Proximate Principles and Energy. (*Contd.*)

Serial No	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	PER 100 G. OF EDIBLE PORTION : Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
438.	Mango, Alphonso, Ratnagiri	...	...	81·6	0·4	0·9	0·5	0·4	16·3	74
439.	Mango, Ankola	...	...	85·9	1·0	0·1	0·5	...	12·5	55
440.	Mango, Banarsi aam	...	...	80·6	1·1	0·2	0·6	2·4	15·1	66
441.	Mango, Banganpalle	Flesh only	79	79·7	0·6	0·2	0·6	0·8	18·1	77
442.	Mango, Bijoo	...	...	81·9	0·9	0·1	0·5	1·0	15·6	67
443.	Mango, Bombai	...	...	76·5	0·8	0·2	0·5	0·9	21·1	89
444.	Mango, Chausa aam	...	...	81·7	0·6	0·5	0·4	0·6	16·2	72
445.	Mango, Dasheri aam	...	...	81·3	0·6	0·6	0·4	0·8	16·5	74
446.	Mango, Fazli aam	...	...	82·3	0·5	0·4	0·4	0·6	15·8	69
447.	Mango, Gola aam	...	...	83·9	0·5	0·6	0·5	0·5	14·1	64
448.	Mango, Gulabkhas (Bhagalpur)	...	...	82·0	0·6	0·2	0·5	0·7	16·0	68
449.	Mango, Jardalu (Bhagalpur)	...	...	80·8	0·6	0·1	0·4	0·8	17·3	73
450.	Mango, Langda aam	...	...	79·6	0·8	0·8	0·4	0·6	17·8	82
451.	Mango, Malda aam	...	...	83·3	0·5	0·5	0·3	0·3	15·1	67
452.	Mango, Mithua (Patna)	...	...	81·8	1·0	0·2	0·5	0·7	15·8	69
453.	Mango, Mankur, Goa	...	...	74·3	0·5	0·6	0·6	0·7	23·3	100
454.	Mango, Nilam aam	...	73	80·8	0·7	0·5	0·6	1·0	16·4	73
455.	Mango, Perreira, Bulsar	...	...	81·9	0·5	0·5	0·4	0·3	16·4	71
456.	Mango, Perreira, Ratnagiri	...	...	81·0	0·6	0·5	0·5	0·3	17·1	75
457.	Mango, Rusbahar aam	...	...	84·6	0·5	0·3	0·3	0·5	13·8	60
458.	Mango, Safeda aam	...	...	82·6	0·4	0·3	0·4	0·7	15·6	67
459.	Mango, Saharanpuri	...	...	81·8	0·6	0·4	0·7	0·6	15·9	70
460.	Mango, Sindhuri aam	...	69	85·3	0·3	0·5	0·5	0·6	12·7	57

461.	Mango, Sipia aam	...	...	73·9	0·6	0·1	0·4	0·7	24·3	101
462.	Mango, Summer bhaisht	...	...	80·8	0·5	0·6	0·3	0·7	17·1	76
463.	Mango, Tamuri aam	...	...	77·0	0·5	0·6	0·5	0·8	20·6	87
464.	Mango, Tota aam	...	74	86·7	0·3	0·2	0·3	0·9	11·6	49
465.	Mango, powder	...	...	6·8	2·8	7·8	4·9	13·7	64·0	337
466.	Mango seed kernel, Neelam	...	54	47·1	2·6	5·1	1·4	0·8	43·0	228
467.	Mango seed kernel, Totapuri or Bangalore	...	56	63·2	2·2	3·3	1·2	1·0	29·1	155
468.	Mangosteen	...	...	84·9	0·5	0·1	0·2	...	14·3	60
469.	Mata sura (whole fruit)	...	...	72·3	1·9	1·0	1·1	13·1	10·7	59
470.	Mata sura (skin and pulp)	...	...	84·1	2·3	1·6	1·2	1·7	9·1	60
471.	Melon, water	...	78	95·8	0·2	0·2	0·3	0·2	3·3	16
472.	Melon, white	...	80	92·8	0·6	0·1	0·6	0·5	5·4	25
473.	Melon, white, Sherda	...	...	94·1	0·3	0·2	0·5	0·5	4·4	21
474.	Melon, white, Phutt	...	...	95·7	0·3	0·1	0·4	0·5	3·0	14
475.	Melon, white, seeds	...	...	6·4	30·6	50·1	4·2	0·3	8·4	607
476.	Mulberry, English black	...	100	85·5	0·7	0·4	0·4	0·8	12·2	55
477.	Mulberry fruit MR 2	...	100	87·5	1·5	0·4	0·9	1·4	8·3	43
478.	Mulchhari	...	...	54·7	1·8	1·0	2·3	4·3	35·9	160
479.	Neem fruit	...	...	81·9	1·3	1·0	0·7	...	15·2	75
480.	Nisorha	...	...	82·5	1·8	1·0	2·2	0·3	12·2	65
481.	Orange, loose-jacketed	Peel and pips rejected	66	86·2	0·9	0·3	0·6	0·4	11·6	53
482.	Orange, Jaffa	...	...	90·8	0·6	0·1	0·3	...	8·2	36
483.	Orange, Nagpur santra	...	70	89·7	0·6	0·2	0·3	0·3	8·9	40
484.	Orange, Nahan santra	...	66	91·3	0·6	0·2	0·3	0·3	7·3	33
485.	Orange, Washington naval	...	...	89·8	0·7	0·1	0·3	...	9·1	40
486.	Orange juice	...	...	97·7	0·2	0·1	0·1	...	1·9	8
487.	Palmyra fruit, tender	Outer peel rejected	70	92·3	0·6	0·1	0·2	0·3	6·5	20

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
488.	Palmyra fruit, ripe (mesocarp)	...	...	77·2	0·7	0·2	0·7	0·5	20·7	87
489.	Paniala	...	...	77·7	0·5	0·1	0·8	1·0	19·9	83
490.	Pannirkoyya	...	100	89·1	0·7	0·2	0·3	1·2	9·7	43
491.	Papa	...	...	46·9	3·7	3·1	1·9	9·5	35·0	183
492.	Papayya, ripe	...	75	90·8	0·6	0·1	0·5	0·8	7·2	32
493.	Papayya, unripe fruit	...	...	92·7	0·4	0·3	0·4	...	6·2	29
494.	Passion fruit	...	...	76·3	0·9	0·1	0·7	9·6	12·4	54
495.	Passion fruit (giant)	Outer skin rejected	87	91·8	0·4	0·1	0·4	0·6	6·6	29
496.	Passion fruit juice (yellow)	...	100	89·0	1·2	0·2	0·7	1·2	7·7	37
497.	Peaches	Flesh and skin	88	86·0	1·2	0·3	0·8	1·2	10·5	50
498.	Pears, "Bagugosha"	...	...	86·5	0·4	0·1	0·3	2·1	10·6	45
599.	Pears, Chinese	All except core and stalk	76	84·9	0·3	0·1	0·3	3·7	10·7	45
500.	Pears, country	...	85	86·0	0·2	0·1	0·3	1·0	11·5	48
501.	Pears, "Desi pear"	...	...	80·4	0·3	0·3	0·4	5·2	13·4	58
502.	Pears, English	...	...	85·8	0·9	0·2	0·2	...	12·9	57
503.	Pears, "Kashmiri nakh"	...	...	83·6	0·2	0·3	0·4	0·6	14·9	63
504.	Pears, avocado	...	...	73·6	1·7	22·8	1·1	...	0·8	215
505.	Pears, Kieffer	All except core and stalk	82	86·3	0·2	0·2	0·2	1·4	11·7	50
506.	Perar	...	...	81·7	1·0	0·2	0·7	3·9	12·5	56
507.	Persimmon	...	93	80·0	0·7	0·2	0·3	0·9	17·9	76
508.	Phalsa	Flesh and skin	69	80·8	1·3	0·9	1·1	1·2	14·7	72
509.	Pineapple	...	60	87·8	0·4	0·1	0·4	0·5	10·8	46
510.	Pipal tree figs	...	...	62·4	2·5	1·7	2·3	9·9	21·3	111

511.	Piyal	...	...	74·3	2·2	0·8	1·7	1·5	19·6	94
512.	Plums, Gaviota	All except the seed	94	88·6	0·7	0·4	0·4	0·4	9·5	44
513.	Plums, Hale	All except the seed	91	85·9	0·7	0·7	0·3	0·7	11·7	56
514.	Plums, red, Nilgiris	All except the seed	89	89·3	0·7	0·2	0·6	...	9·2	41
515.	Plums, red, Punjab	All except the seed	93	86·3	0·7	0·4	0·5	0·4	11·7	53
516.	Plums, Rubio	All except the seed	90	85·5	0·7	0·2	0·4	0·4	12·9	56
517.	Plums, Satsuma	...	...	86·5	0·7	1·0	0·5	0·3	11·2	56
518.	Plums, Shiro	All except the seed	95	87·9	0·5	0·4	0·3	0·4	10·5	48
519.	Plums, small, alucha	All except the seed	92	87·4	0·6	0·2	0·6	0·8	10·4	46
520.	Plums, yellow green, Punjab	...	90	86·3	0·7	0·2	0·7	0·6	11·5	51
521.	Pomegranate	...	68	78·0	1·6	0·1	0·7	5·1	14·6	65
522.	Pomegranate, Punjab, plain	...	84	82·0	1·1	1·1	0·4	1·0	14·4	72
523.	Pomegranate, Punjab, Anarlal	...	45	79·8	1·0	0·9	0·4	1·6	16·3	77
524.	Pomeloe	...	...	88·0	0·6	0·1	0·5	0·6	10·2	44
525.	Prunes	...	85	35·3	0·3	0·3	1·7	2·0	60·4	246
526.	Quince	...	...	85·7	0·3	0·1	0·3	1·7	11·9	49
527.	Radish fruit	...	88	90·5	2·3	0·3	0·8	1·4	5·4	34
528.	Raisins, preserved	...	...	18·5	2·0	0·2	2·0	0·9	76·4	315
529.	Raisins, cheap variety	...	100	22·0	1·8	0·5	2·1	1·4	72·2	301
530.	Raisins, costly variety	...	100	20·2	1·6	0·3	1·8	1·1	75·0	309
531.	Raisins, big size with seeds	All except seeds	92	19·0	1·4	0·3	1·8	0·7	76·8	315
532.	Raspberry	...	...	84·8	1·1	0·6	0·9	1·0	11·6	56
533.	Rayan	...	...	68·6	0·5	2·4	0·8	...	27·7	132
534.	Sakkarteti (Ker)	...	...	94·1	0·3	0·1	0·3	...	5·3	22
535.	Sapota, cricket ball, Nilgiris	All except the seed	82	77·7	0·5	0·6	0·5	1·8	18·9	83

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	PER 100 g. OF EDIBLE PORTION : Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
536.	Sapotas, Bombay, chiku	...	...	71·4	1·1	1·2	0·5	...	25·8	118
537.	Sapota, Hyderabad, chiku	Pulp only	83	72·4	0·8	1·9	0·6	2·0	22·3	110
538.	Sapotas, Punjab, Cheekoo	...	...	73·1	0·5	0·7	0·4	3·9	21·4	94
539.	"Seethapazham", Nilgiris	...	...	73·5	1·6	0·3	0·7	...	23·9	105
540.	Sharifa, Punjab	...	...	69·3	1·7	0·6	1·1	3·7	23·6	106
541.	Sithaphal, Hyderabad	Flesh only ; no skin, core or seed	45	68·6	1·6	0·3	0·9	2·4	26·2	114
542.	Sirka	...	...	55.3	3·2	1·3	2·0	4·9	33·3	158
543.	Star apple	...	...	91·9	0·3	0·2	0·3	1·0	6·3	28
544.	Strawberry	...	96	87·8	0·7	0·2	0·4	1·1	9·8	44
545.	Tamarind, pulp	...	...	20·9	3·1	0·1	2·9	5·6	67·4	283
546.	Tar ka koa	...	...	92·6	0·6	0·1	0·3	0·1	6·3	29
547.	"Thavittu pazham"	...	92	82·5	0·6	0·2	0·4	5·6	10·7	47
548.	Tirkol ka phal	...	...	93·9	0·7	0·1	1·0	...	4·3	21
549.	Tomato, ripe	...	100	94.0	0·9	0·2	0·5	0·8	3·6	20
550.	Tomatillo	Flesh, skin and seeds only	98	91·7	0·7	0·6	0·6	0·6	5·8	31
551.	Tree tomato	Flesh and seeds only	90	86·2	1·5	0·2	1·2	4·2	10·3	49
552.	Tuki	...	57	70·6	0·8	0·2	0·8	0·8	26·7	112
553.	Velwa ka topi	...	...	27·3	2·1	0·6	2·6	2·2	65·1	274
554.	"Vikkipazham"	Flesh and skin only	54	59·3	1·4	0·1	1·1	1·6	36·5	153
555.	Wood apple	...	53	64·2	7·1	3·7	1·9	5·0	18·1	134

FISHES

556.	Air	...	...	78·1	15·9	1·3	1·2	...	3·5	89
557.	Amlet	...	...	73·5	20·8	1·1	0·9	...	3·7	108
558.	Anchovy	Head, fins, scales, skin, skeletal structures, viscera discarded	66	69·3	19·3	9·6	1·6	...	0·2	164
559.	Bacha	...	...	68·8	18·1	5·6	1·4	...	6·1	147
560.	Bam	...	...	74·8	16·1	0·9	1·3	...	6·9	100
561.	Baspata machli	...	...	76·1	18·2	4·4	1·4	...	0	112
562.	Bata (small varieties)	...	...	79·0	14·3	2·5	2·0	...	2·2	89
563.	Bele	...	...	79·7	14·5	0·6	2·3	...	2·9	75
564.	Bhangar	...	...	70·6	14·8	8·8	2·0	...	3·8	154
565.	Bhangar bata	...	...	67·3	19·4	4·4	2·2	...	6·7	144
566.	Bhetka	...	...	82·0	13·7	1·1	1·2	...	0	65
567.	Bhole	...	...	78·1	15·2	1·1	1·9	...	3·7	86
568.	Big-jawed jumper	Head, fins, scales, skin, skeletal structures, viscera discarded.	67	73·3	19·4	5·8	1·4	...	0·1	130
569.	Black pomfret	Head, fins, scales, skin, skeletal structures, viscera discarded.	70	74·5	20·3	2·6	1·1	...	1·5	111
570.	Blue mussel	...	43	81·5	9·9	2·0	3·0	...	3·6	72
571.	Boal	...	...	73·0	15·4	2·7	1·3	...	7·6	116
572.	Bugda chinghri	...	...	73·0	18·8	1·6	2·1	...	4·5	108
573.	Cat fish	...	...	77·1	21·4	...	...	...	...	86
574.	Chela	...	...	77·5	14·6	4·3	2·1	...	1·5	103
575.	Chital	...	...	75·0	18·6	2·3	1·0	...	3·1	108
576.	Cockup	Head, fins, scales, skin, skeletal structures, viscera discarded	50	78·2	18·4	1·0	1·7	...	0·7	85
577.	Crab (muscle)	...	...	83·5	8·9	1·1	3·2	...	3·4	59
578.	Crab (small)	...	...	65·3	11·2	9·8	4·6	...	9·2	170

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
579.	Dhain	...	...	72·0	14·0	12·1	1·4	...	0·5	167
580.	Fesha	Fleshy portion	...	74·0	18·4	1·9	2·5	...	3·2	104
581.	Fish flour	...	100	8·8	89·4	1·2	2·3	...	...	369
582.	Fish Meal (Arius)	...	100	4·3	90·3	1·2	1·5	...	2·7	383
583.	Fish Meal (Caranx)	...	100	10·7	83·6	0·9	3·5	...	1·3	348
584.	Fish Meal (Shark)	...	100	10·7	88·1	1·1	1·8	...	...	362
585.	Folui	...	...	73·0	19·8	1·0	2·5	...	3·7	103
586.	Ghol	...	...	69·7	18·4	0·9	...	...	...	82
587.	Gima shak	...	...	...	2·1	...	...	...	...	...
588.	Goggler	Head, fins, scales, skeletal structures, viscera, discarded.	60	76·9	18·7	1·6	1·8	...	1·0	93
589.	Gurjowli	...	...	81·0	16·1	1·1	1·3	...	0·5	76
590.	Hilsa	Fleshy portion	...	53·7	21·8	19·4	2·2	...	2·9	273
591.	Herring, oxeyed	Fleshy portion	73	74·7	20·7	2·2	1·6	...	0·8	106
592.	Horse mackerel	Head, fins, scales, skin, skeletal structures, viscera discarded.	58	76·9	21·2	1·6	1·3	...	0	229
593.	Indian herring	-do-	50	72·8	20·3	3·2	1·5	...	2·2	119
594.	Indian whiting	-do-	61	77·1	19·2	0·6	1·5	...	1·6	89
595.	Jew fish, Pallikora	-do-	49	77·0	20·0	2·2	1·6	...	0	100
596.	Jew fish, Kora	-do-	75	78·3	18·8	0·8	1·9	...	...	100
597.	Kajura	...	...	79·4	12·6	0·4	...	...	...	54
598.	Kalabasu	...	...	81·0	14·7	1·0	1·3	...	2·0	76
599.	Karch kala	...	...	...	1·0	...	...	...	...	...
600.	Katla	...	...	73·7	19·5	2·4	1·5	...	2·9	111
601.	Katla (from Jheel)	...	...	74·2	18·6	1·9	1·6	...	3·7	106

602.	Kharsala	...	...	75·3	16·3	5·1	1·8	...	1·5	117
603.	Kholshe	...	...	75·0	16·1	3·9	1·9	...	3·1	112
604.	Khoyra	...	...	72·0	18·0	3·0	1·8	...	5·2	120
605.	Koi	...	...	70·0	14·8	8·8	2·0	...	4·4	156
606.	Kocha machli (Andha sanp)	...	...	76·7	18·7	0·8	1·4	...	2·3	91
607.	Kuja vetki	Fleshy portion	...	72·0	18·9	3·8	1·5	...	3·8	125
608.	Lady vendi	...	...	77·0	18·2	0·7	0·8	...	3·3	92
609.	Lata	...	...	74·0	19·4	0·6	2·6	...	3·4	97
610.	Lobster	...	...	77·3	20·5	0·9	1·4	...	...	90
611.	Mackerel	Head, fins, scales, skin, skeletal structures, viscera discarded.	61	77·3	18·9	1·7	1·6	...	0·5	93
612.	Magur	...	...	78·5	15·0	1·0	1·3	...	4·2	86
613.	Mahasole	...	...	70·3	25·2	2·3	1·2	...	1·0	126
614.	Mangalore, big fish	...	...	78·4	22·6	0·6	0·8	...	...	91
615.	Mangalore, small fish	...	...	77·9	21·5	1·6	2·0	...	...	100
616.	Mowrala	Fleshy portion with bones	...	72·0	18·0	4·1	3·3	...	2·6	119
617.	Mrigal	Fleshy portion	...	75·0	19·5	0·8	1·5	...	3·2	98
618.	Mullet	Fleshy portion	73	69·9	19·1	7·8	1·1	...	2·1	155
619.	Oil sardine	Head, fins, scales, skin, skeletal structures, viscera discarded	70	76·5	19·6	2·0	1·8	...	...	96
620.	Pabda	...	...	73·0	19·2	2·1	1·1	...	1·6	114
621.	Pakal	...	...	76·8	14·3	1·2	1·1	...	6·6	94
622.	Palmplate	...	...	81·0	15·1	1·0	0·7	...	2·2	78
623.	Pangas	...	...	72·3	14·2	10·8	1·0	...	1·7	161
624.	Parsey	...	...	69·3	16·6	5·9	2·1	...	6·1	144
625.	Parsey (big varieties)	...	...	72·3	18·4	5·0	0·9	...	3·4	132
626.	Pomfrets	...	...	78·5	19·1	...	...	...	...	76
627.	Pooin shak	...	...	...	1·2	...	...	...	...	...
628.	Prawn (muscle)	...	...	77·9	20·8	0·3	1·4	...	...	86
629.	Prawn (Andail gorla)	...	...	75·5	21·5	1·7	1·3	...	...	101

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Mineral g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
630.	Prawn (Karuana gorla)	...	...	76·6	17·5	2·1	2·7	...	1·2	94
631.	Sea prawns, Chemmin	...	43	78·5	17·6	0·4	1·5	...	2·0	82
632.	Sea prawns, Kozi chemmin	...	47	78·9	18·0	0·4	1·7	...	1·0	80
633.	Sea prawns, chemmin	...	52	76·7	20·8	0·7	1·5	...	0·3	90
634.	Sea prawns, Vala chemmin	...	50	78·6	18·7	0·9	1·2	...	0·6	85
635.	Puti	Fleshy portion	...	75·0	18·1	2·4	1·4	...	3·1	106
636.	Rangoli	...	...	66·6	16·9	1·2	...	...	...	78
637.	Ray	Head, fins, scales, skin, skeletal structures, viscera discarded	50	75·3	20·9	0·5	1·2	...	2·1	97
638.	Ribbon fish	-do-	82	76·6	18·1	3·2	1·5	...	0·6	104
639.	Rohu	...	78	76·7	16·6	1·4	0·9	...	4·4	97
640.	Rohu (from Jheel)	...	...	77·1	15·2	2·2	1·3	...	4·2	97
641.	Rohu fish (Roes)	...	...	64·3	26·4	6·0	1·2	...	2·2	168
642.	Royna	...	...	76·0	15·6	1·1	1·2	...	6·1	97
643.	Sakchi	...	...	80·6	16·7	0·5	1·0	...	1·2	76
644.	Sardines	Head, fins, scales, skin, skeletal structures, viscera discarded	60	78·1	21·0	1·9	1·7	...	...	101
645.	Sardines	-do-	49	78·3	18·2	0·2	2·1	...	1·2	79
646.	Sarputi	...	...	70·2	16·5	9·5	1·5	...	2·3	161
647.	Shark	Head, fins, scales, skin, skeletal structures, viscera discarded	63	75·5	22·9	0·7	1·4	...	...	98

648.	Shark	Head, fins, scales, skin, skeletal structures, viscera discarded	67	76·0	21·6	0·4	1·2	...	...	90
649.	Seer, Ayakora	-do-	66	72·7	22·5	4·0	1·5	...	...	126
650.	Silver belly (Nallamullan)	All except viscera	95	76·0	18·8	1·2	3·6	...	0·4	88
651.	Silver belly (Chakramullan)	All except viscera	94	76·4	19·2	1·6	3·2	...	...	91
652.	Singhada	Head, fins, scales, skin, skeletal structures, viscera discarded	58	61·0	20·9	3·1	1·1	...	...	111
653.	Singhi	...	...	68·0	22·8	0·6	1·7	...	6·9	124
654.	Sole	Fleshy portion	...	78·0	16·2	2·3	1·3	...	2·2	94
655.	Sole (Westcoast, Madras)	All except viscera	100	78·0	19·5	4·7	3·1	...	0·3	122
656.	Sooga machli	...	...	75·8	20·8	2·3	1·4	...	0	104
657.	Surmal	...	...	63·0	19·9	1·4	...	...	...	92
658.	Tengra	...	...	70·0	19·2	6·4	2·1	...	2·3	144
659.	Thread fin	Head, fins, scales, skin, skeletal structures, viscera discarded	63	76·6	17·9	2·9	1·3	...	1·3	103
660.	Tunny	-do-	61	71·9	23·8	1·6	1·8	...	0·9	113
661.	Vajra	...	...	79·4	19·9	1·5	1·4	...	...	93
662.	White bait	All except viscera	100	79·1	14·5	1·4	2·5	...	2·5	81
663.	White pomfret	Head, fins, scales, skin, skeletal structures, viscera discarded	68	78·4	17·0	1·3	1·5	...	1·8	87
		SUN-DRIED FISHES								
664.	Bali kanakda	...	...	17·5	44·0	9·0	24·5	...	5·0	277
665.	Bhangar	...	...	17·9	61·5	2·3	16·5	...	1·8	274
666.	Bhetki	...	...	20·1	60·2	2·0	15·9	...	1·8	266

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories.
1	2	3	4	5	6	7	8	9	10	11
667.	Chelwa	...	...	4·7	64·8	17·0	13·4	...	0·1	412
668.	Bombay, Duck	...	...	16·7	61·7	4·0	15·1	...	2·5	293
669.	Chiki	...	...	14·6	54·7	6·3	24·2	...	0·2	276
670.	Chingni (small)	...	...	17·9	62·4	3·9	13·9	...	2·9	296
671.	Chingri-Goga chingri	...	...	13·1	63·6	3·5	15·2	...	4·6	304
672.	Chingri-Halda Chingri	...	...	14·0	64·1	3·1	16·7	...	2·1	293
673.	Chingri-Matka Chingri	...	...	15·2	61·3	3·3	19·1	...	1·1	279
674.	Chingri-Rangi Chingri	...	...	16·0	61·9	2·5	19·3	...	0·3	271
675.	Chingri-Sadachingri	...	...	16·3	59·3	3·6	17·3	...	3·5	284
676.	Fesha	...	...	10·3	70·9	4·9	11·9	...	2·0	336
677.	Hilsa (wet cured with salt)	...	...	55·9	14·1	11·8	16·5	...	1·7	169
678.	Joyali magur	...	...	13·6	69·7	5·4	8·7	...	2·6	338
679.	Khoyra	...	...	17·3	58·9	6·2	16·4	...	1·2	296
680.	Laukhola	...	...	33·2	49·8	5·4	6·6	...	5·0	268
681.	Modal Machh	...	...	18·1	60·7	4·0	17·1	...	0·1	279
682.	Muti	...	...	19·2	63·6	2·4	11·8	...	3·0	288
683.	Parsey	...	...	11·8	65·0	4·4	15·8	...	3·0	312
684.	Pata machh	...	...	12·6	64·6	2·7	17·6	...	2·5	293
685.	Ribbon	...	...	14·4	67·2	5·8	12·7	...	...	321
686.	Rupapatar	...	...	14·2	54·6	14·3	15·5	...	1·4	353
687.	Shankha Chur	...	...	16·4	67·2	6·1	9·0	...	1·3	329
688.	Sukhua machli	...	...	2·6	60·0	21·6	15·7	...	0·1	434
689.	Sukhua machli	...	...	3·8	68·9	5·7	21·6	...	0	327
690.	Sukhua machli	...	...	2·5	56·0	26·5	15·0	...	...	463
691.	Taltapra	...	...	11·0	54·5	16·3	16·8	...	1·4	370
692.	Tangra	...	...	13·8	54·9	3·9	27·5	...	...	275
693.	Tapra	...	...	12·6	62·3	9·0	15·1	...	1·0	334
694.	Tapsi	...	...	16·2	58·5	12·1	17·2	...	...	343

OTHER FLESH FOODS

695. Beef, Muscle	...	...	74·3	22·6	2·6	1·0	...	...	114
696. Beef meal	...	100	8·2	79·2	10·3	1·6	0·5	0·2	410
697. Bhat jhinga	...	...	75·5	14·8	2·8	3·6	...	3·3	98
698. Boordood	...	...	2·1	49·3	44·5	4·1	...	...	597
699. Buffalo (shoulder blades)	...	...	78·7	19·4	0·9	1·0	...	...	86
700. Dhauns	...	...	79·1	19·6	0·4	1·0	...	...	82
701. Duck	...	...	72·3	21·6	4·8	1·2	...	...	130
703. Egg, duck	...	...	71·0	13·5	13·7	1·0	...	0·7	180
704. Egg, hen	...	...	73·7	13·3	13·3	1·0	...	...	173
707. Field rat's meat	...	...	73·9	23·6	1·0	1·4	...	...	103
708. Finch	...	...	68·8	26·6	3·0	1·7	...	...	133
709. Fowl	...	...	72·2	25·9	0·6	1·3	...	...	109
710. Fresh water mussel	...	...	79·5	14·5	1·6	2·3	...	2·1	80
711. Goat meat muscle	...	...	74·2	21·4	3·6	1·1	...	...	118
712. Grey quail	...	...	75·0	21·9	1·7	1·4	...	...	103
713. Liver, goat	...	...	76·3	20·0	3·0	1·3	...	2·3	116
714. Liver, sheep	...	...	70·4	19·3	7·5	1·5	...	1·4	150
715. Mutton (muscle)	...	...	71·5	18·5	13·3	1·3	...	...	194
716. Meat of narrow-snouted crocodile	...	...	77·4	20·6	0·4	1·3	...	0·3	87
717. Pigeon	...	...	70·4	23·3	4·9	1·4	...	...	138
718. Pork (muscle)	...	...	77·4	18·7	4·4	1·0	...	...	114
719. Red ants with eggs.	...	...	71·6	13·4	4·6	1·3	...	9·1	131
720. Ruff and Reeve	...	...	70·3	25·9	2·3	1·5	...	...	124
721. Shrimp, small, dried	...	...	6·0	68·1	8·5	17·4	...	...	369
722. Snail-small	...	...	78·9	12·6	1·0	3·8	...	3·7	74
723. Snail-big	...	...	74·1	10·5	0·6	2·4	...	12·4	97
725. Turtle's meat	...	...	77·0	18·9	1·2	1·2	...	1·8	94
726. Turtle's meat	...	...	80·2	18·1	0·7	1·0	...	...	78
727. Turtle's meat	...	...	81·2	14·7	2·8	1·0	...	0·3	85
728. Turtle's meat	...	...	81·4	15·2	0·3	1·1	...	1·9	71
729. Turtle's meat	...	...	77·1	15·4	2·3	1·0	...	4·2	99
730. Turtle's egg	...	...	76·0	12·2	6·7	1·5	...	3·7	109
731. Venison	...	...	75·3	21·0	0·6	1·2	...	1·9	97
732. Wood sand piper	...	...	72·1	22·9	2·1	1·4	...	1·5	117

I. Proximate Principles and Energy. (*Contd.*)

Serial No	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
	FATS AND EDIBLE OILS									
733.	Butter	...	100	19·0	...	81·0	2·5	...	...	729
734.	Ghee, fresh, high moisture, cow	...	100	8·0	...	92·0	0	...	...	818
735.	Ghee, fresh, low moisture, cow	...	100	0·5	...	99·5	...	...	...	895
736.	Ghee, buffalo	...	100	...	...	100	...	...	...	900
737.	Vegetable cooking oil (sesame, groundnut, coco-nut, safflower, mustard)	...	100	...	...	100	...	...	...	900
738.	Vanaspati	...	100	...	...	100	...	...	...	900
	MILK AND MILK PRODUCTS									
739.	Milk, cow's	...	100	87·5	3·2	4·1	0·8	...	4·4	67
740.	Milk, buffalo's	...	100	81·0	4·3	8·8	...	...	5·1	118
741.	Milk, goat's	...	100	86·8	3·3	4·5	0·8	...	4·4	71
742.	Milk, human	...	100	88·0	1·1	3·4	0·1	...	7·5	65
743.	Milk, ass's	...	100	89·9	2·1	1·5	...	...	6·2	46
744.	Curds	...	100	89·1	3·1	4·0	0·8	...	2·9	60
745.	Butter milk*	...	100	97·5	0·8	1·1	0·1	...	0·5	15
746.	Skimmed milk, liquid	...	100	92·1	2·5	0·1	0·7	...	4·6	29
747.	Channa (cow's milk)	...	100	57·1	18·3	20·8	2·6	...	2·3	270
748.	Channa (buffalo milk)	...	100	54·1	13·4	23·0	1·6	...	7·9	292
749.	Cheese	...	100	40·3	24·1	25·1	4·2	...	6·3	348
750.	Kheer	...	100	69·0	6·9	12·2	2·3	...	11·3	183
751.	"Khoa" (whole buffalo milk)	...	100	30·6	14·6	31·2	3·1	...	20·5	421

752.	"Koa" (skimmed buffalo milk)	...	100	46·1	22·3	1·6	4·3	...	25·7	206
753.	"Khoa" (whole cow's milk)	...	100	25·2	20·1	25·9	4·0	...	24·9	413
754.	Skimmed milk powder (cow's milk)	...	100	4·1	38·0	0·1	6·8	...	51·0	357
755.	Whole milk powder (cow's milk)	...	100	3·5	25·8	26·7	6·0	...	38·0	496

MISCELLANEOUS FOODSTUFFS

756.	Arecanut	...	...	31·3	4·9	4·4	1·0	11·2	47·2	248
757.	Arrowroot flour, West Indian	...	...	16·5	0·2	0·1	0·1	...	83·1	334
758.	Bajjar bhang	...	...	6·6	17·2	8·5	3·9	2·2	61·6	392
759.	Bali	...	...	87·7	5·2	0·9	1·9	...	4·3	46
760.	Banti	...	...	11·3	8·3	4·3	1·4	...	74·6	371
761.	Barai dal	...	...	6·5	21·6	0·9	3·5	4·3	63·3	348
762.	Betel leaves	...	...	85·4	3·1	0·8	2·3	2·3	6·1	44
763.	Bhangari	After removing husk	76	10·5	11·3	3·1	2·3	0·8	72·0	361
764.	Bhangri ka atta	...	100	13·4	9·3	3·2	2·9	10·4	60·8	310
765.	Bhilisa of Elo	...	100	6·5	37·3	2·3	4·4	5·6	43·9	346
766.	Bhoose ka atta	...	100	13·1	8·2	1·3	6·0	9·0	62·4	294
767.	Bhorra chhattoo	...	...	94·4	1·9	0·9	0·8	...	2·2	25
769.	Bread, white	...	...	...	7·8	0·7	...	0·2	51·9	245
770.	Bread, brown	...	...	...	8·8	1·4	...	1·2	49·0	246
771.	Bulgar wheat (Processed)	...	100	9·8	8·2	1·6	1·5	1·7	77·2	348
772.	Cane sugar (home made)	...	...	1·2	0·2	<0·1	0·4	...	98·2	394
773.	Cane sugar (commercial)	...	...	0·4	0·1	...	0·1	...	99·4	398
774.	Cereal grain "Kathu"	...	...	9·0	10·5	3·0	1·8	0·2	75·5	371
775.	Cheno	...	...	3·3	8·5	4·6	1·8	9·5	72·3	365

*The term "buttermilk" is applied in India to the following product :
Whole milk, boiled, soured, the fat removed as far as possible by home-churning and diluted to suit individual needs and tastes.

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
776.	Cholai or seel	...	...	11·5	13·6	5·5	3·1	5·6	60·8	347
777.	Chookri-ka-atta	...	100	14·2	8·1	1·8	5·0	6·0	64·9	308
778.	Chookri-ka-patta	...	100	13·1	2·9	9·3	1·8	14·3	58·6	262
779.	Choota Karhani chatto	...	...	88.0	6·3	0·9	1·8	...	3·0	45
780.	Chukary	...	...	6·6	2·2	0·5	12·4	14·7	63·6	268
781.	Coconut, tender	...	...	90·8	0·9	1·4	0·6	...	6·3	40
782.	Coconut water (from 5 month old nuts)	...	100	93·9	0·1	<0·1	0·1	0	5·9	24
783.	Coconut water (from 6 month old nuts)	...	100	92·8	0·1	<0·1	0·5	0	6·7	27
784.	Coconut water (from 8 month old nuts)	...	100	94·1	0·1	<0·1	0·4	0	5·2	22
785.	Coconut water (from 10 month old nuts)	...	100	94·4	0·2	<0·1	0·3	0	5·0	21
786.	Coconut water (from 12 month old nuts)	...	100	93·9	0·2	<0·1	0·3	0	5·6	24
787.	Coconut milk (from 10 month old nuts)	Expressed by squeezing kernel and filtering through cloth.	100	46·3	2·4	41·3	0·9	0	8·3	414
788.	Coconut milk (from 12 month old nuts)	-do-	100	39·2	4·4	40·7	0·9	0	11·7	430
789.	Coconut kernel (from mature nuts)	...	100	36·3	4·5	41·6	1·0	3·6	13·0	444
790.	Coconut palm sugar (home made)	...	...	0·6	0·3	0·1	0·4	...	98·6	396
791.	Coconut palm jaggery	...	...	10·3	1·0	0·2	5·0	...	83·5	340
792.	Cod-liver oil	...	...	...	...	100	...	...	...	900
794.	Cowage-seed flour	...	...	5·3	28·2	7·0	1·7	2·2	55·6	398

795.	Date-palm sugar (home made)	...	...	0·5	0·3	0·1	0·4	...	98·8	397
796.	Date-palm jaggery	...	...	9·6	1·5	0·3	2·6	...	86·1	353
797.	Deoiled coconut meal	...	100	8·7	23·8	2·8	7·0	9·8	47·9	312
798.	Dingil chhattoo	...	...	85·5	6·4	1·0	3·1	...	4·1	51
799.	Elo	...	100	10·6	12·2	2·0	2·2	1·8	71·2	352
800.	Fan-palm jaggery	...	...	8·6	1·0	0·1	1·8	...	88·5	359
801.	Groundnut cake	...	...	7·2	40·9	7·4	2·5	3·2	38·7	385
802.	Gourd mushroom	...	...	90·0	2·3	0·9	0·9	...	5·9	41
803.	Halibut liver oil	...	...	...	...	100	...	...	...	900
804.	Honey	...	...	20·0	0·3	0	0·2	...	79·5	319
805.	Jaggery	...	...	3·9	0·4	0·1	0·6	...	95·0	383
806.	Kalipakku	...	...	13·8	6·4	8·4	1·8	11·8	57·8	332
809.	Lamtra	...	100	10·7	12·2	1·9	2·0	1·8	71·4	352
810.	Lotus seeds, dry	...	...	10.0	17.2	2·4	3·8	2·6	66·6	357
811.	Lotus stem, dry	...	100	9·5	4·1	1·3	8·7	25·0	51·4	234
812.	"Madapu ginja"	...	...	36·0	20·2	18·8	2·6	...	22·4	340
813.	Mahua flowers	...	89	18·6	4·4	0·6	2·7	1·7	72·9	314
816.	"Makhana"	...	...	12·8	9·7	0·1	0·5	...	76·9	348
817.	Malted palmyra root	...	...	11·2	5·2	0·5	2·9	...	80·2	346
818.	Mushroom, anthill	...	...	85·9	7·2	1·3	2·2	...	3·4	54
819.	Neera	...	...	...	0·4	...	0·5	...	10·9	45
820.	Pachwai (Assam)	...	100	88·2	3·0	1·8	0·6	0·6	5·8	132
821.	Palmyra palam sugar (home made)	...	...	0·3	0·4	0·1	0·4	...	98·9	398
822.	Pappads"	...	...	20·3	18·8	0·3	8·2	...	52·4	288
824.	"Patra chhattoo (edible mushroom)	...	...	87·4	3·1	0·7	0·8	...	8·2	52
825.	Perandai	...	...	87·4	1·2	0·3	2·0	1·8	7·3	37
826.	Phog flowers, dry	Whole flowers	100	6·2	18·0	...	6·8	...	...	...
827.	Phutka chhattoo (rugroo)	...	...	80·9	3·7	0·4	0·9	...	14·1	75
829.	Poppy seeds	...	...	4·3	21·7	19·3	9·9	8·0	36·8	408
830.	Pumpkin seeds	Kernel only	70	8·0	24·3	47·2	4·7	0·2	15·6	584
831.	Rajakeera seeds	...	100	9·3	16·5	5·3	3·5	2·7	62·7	359
832.	Red palm oil	...	100	...	...	100·0	...	...	...	900
833.	Rice Bran	...	...	11·8	13·5	16·2	10·5	9·2	38·9	355

I. Proximate Principles and Energy. (*Contd.*)

Serial No.	Name of foodstuff	Nature of edible (analysed) material	Edible portion per cent	Per 100 g. of edible portion: Moisture g.	Protein g.	Fat g.	Minerals g.	Fibre g.	Other carbo-hydrates g.	Calories
1	2	3	4	5	6	7	8	9	10	11
834.	Rosated tamarind seed kernel	...	...	9·9	16·1	7·3	1·6	1·0	64·1	387
835.	Saijan ka phool	...	...	85·9	3·6	0·8	1·3	1·3	7·1	50
836.	Seeds of roselle	...	...	6·5	20·9	21·3	4·9	15·5	31·1	400
837.	Sal ka phal	...	...	10·0	8·4	11·8	1·0	2·5	66·4	405
838.	Sankalu	...	92	84·5	1·5	0·4	0·4	0·7	11·2	56
839.	Sawak-ka-chawal	...	...	12·3	6·6	0·7	0·5	1·6	78·1	345
840.	Sago	...	...	12·2	0·2	0·2	0·3	...	87·1	35
841.	Sago palm jaggery	...	...	9·2	2·3	0·1	3·7	...	84·8	349
842.	Shark liver oil	...	...	...	...	100·0	...	...	...	900
843.	Singhara, dry	...	...	13·8	13·4	0·8	3·1	...	68·9	336
844.	Straw mushroom	...	...	91·2	5·8	0·4	1·2	...	1·3	32
845.	Sugar cane	...	...	75·8	0·1	0·1	0·5	3·0	20·5	83
846.	Sugar cane preserves	...	...	8·1	0·6	0·1	1·8	11·0	78·4	317
847.	Sugar cane juice	...	...	90·2	0·1	0·2	0·4	...	9·1	39
848.	Tangunika chawal	...	...	9·8	10·2	3·3	1·0	...	75·8	374
849.	Tissourie (Mixture of blackgram and linseed)	...	...	15·5	14·4	22·0	7·3	14·5	26·3	361
850.	Toddy, sweet	...	...	84·7	0·1	0·2	0·7	...	14·3	59
851.	Toddy, coconut, sweet	...	...	96·2	0·1	<0·1	0·2	...	3·5	15
852.	Toddy, coconut, fermented	...	...	98·3	0·2	0·2	0·1	...	1·3	7
853.	Toddy, fermented (from shop)	...	...	97·6	0·1	0·3	0·2	...	1·8	10
854.	Water lily seeds	...	...	10·0	8·3	1·0	0·9	4·2	75·7	345
855.	Yeast, dried (food)	...	...	7·8	35·7	1·8	8·4	...	46·3	344
856.	Yeast, dried (Brewer's)	...	...	13·6	39·5	0·6	7·0	0·2	39·1	320

TABLE OF FOOD VALUES

II Minerals

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	CEREALS AND GRAIN PRODUCTS																
1.	Bajra	42	125	21	269	141	52	14·3	4·4	31	10·9	30	0·55	147	39	56	...
2.	Barley	26	127	2	215	101	47	3·0	1·3	43	16·1	253	0·34	130	91	49	...
3.	Barley, wild	46	...	...	...	...	...	14·0	...	...	...	...	...	...	84	...	...
4.	Cholam	25	140	10	222	172	77	5·8	1·4	24	7·3	131	1·78	54	44	27	...
5.	Italian millet	31	120	0	290	197	66	12·9	2·5	19	4·6	250	0·55	171	37	99	...
6.	"Kootu"	64	227	0	355	322	91	15·5	1·9	12	16·2	362	0·71	148	6	44	...
7.	Maize, tender	9	40	9	121	66	55	1·1	0·7	77	51·7	151	...	61	34	26	...
8.	Maize, dry	10	144	6	348	306	85	2·0	0·9	45	15·9	286	0·19	114	33	101	...
9.	Oatmeal	50	...	...	380	...	...	3·8	...	...	...	...	...	...	...	...	...
10.	Panivaragu	14	73	0	206	83	40	11·5	1·7	15	8·2	113	0·28	157	19	136	...
11.	Ragi	344	191	0	283	209	74	17·4	0·5	3	11·0	408	0·59	160	44	...	161
12.	Rice, raw, home-pounded	12	...	...	175	...	...	2·9	...	...	...	...	...	...	...	...	...
13.	Rice, raw, milled	10	48	3	160	83	52	3·1	1·4	42	8·0	70	0·72	53	7	69	...
14.	Rice, parboiled, home-pounded	10	...	...	280	...	...	2·8	...	...	...	...	...	...	...	...	...
15.	Rice, parboiled, milled	9	38	1	143	83	58	4·0	1·4	35	10	117	0·33	79	13	72	...
16.	Rice, raw, unmilled (prepared in wooden grinder)	10	...	...	230	...	...	4·5	...	...	...	...	...	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
17.	Rice, white, puttu	10	...	...	80	...	...	3·3	...	...	...	...	...	...	...	...	...
18.	Rice, black, puttu	10	...	...	240	...	...	4·9	...	...	...	...	...	...	...	...	...
19.	Rice bran	67	...	...	1,410	...	...	35·0	...	...	...	...	...	...	...	...	...
20.	Rice flakes	20	101	0	238	151	63	20·0	7·6	38	10·9	154	0·37	105	17	104	...
21.	Rice, puffed	23	82	0	150	47	31	6·6	1·9	29	1·406*	181	0·32	135	507*	418	...
22.	Samai	17	60	0	220	57	26	10·0	0·7	7	8·1	129	0·42	149	13	116	...
23.	Sanwa millet	20	...	...	280	...	...	2·9	...	...	...	...	...	...	...	...	...
24.	Suji	16	...	...	102	...	...	1·6	...	...	21	83	...	...	...	...	...
25.	Talipot flour, untreated	130	...	...	60	...	...	20·0	...	...	...	...	...	...	...	...	...
26.	Talipot flour, treated†	90	...	...	40	...	...	22·2	...	...	...	...	...	...	...	...	...
27.	Vermicelli	22	42	0	92	19	21	2·0	1·6	80	7·9	138	0·29	145	46	79	...
28.	Varagu	27	112	0	188	135	72	31·1	0·6	2	4·6	144	0·87	136	11	38	...
29.	Wheat, whole	41	139	8	306	238	80	4·9	2·5	51	17·1	284	0·49	128	47	77	...
30.	Wheat flour (whole), atta	48	55	26	423	203	48	11·5	3·1	27	20·0	315	0·49	122	29	76	...
31.	Wheat flour (refined), maida	23	42	0	121	38	31	2·5	1·2	48	9·3	130	0·19	115	47	77	...

* Possibly contains sodium chloride added during preparation.

† Soaked with 4 times its weight of water, allowed to settle overnight, supernatant liquid discarded and residue sun-dried.

PULSES AND LEGUMES

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid	Base
32.	Bengalgram, whole	202	168	1	312	158	49	10·2	3·5	34	37·3	808	0·76	179	58	...	112
33.	Bengalgram, roasted	58	121	0	340	159	47	9·5	4·9	52	61·7	763	0·74	217	87	14	...

34. Bengalgram dhal	56	138	5	331	133	40	9·1	4·8	53	73·2	720	0·98	160	39	...	32
35. "Bhetmas"	210	...	...	600	...	...	9·9	...	...	121·0	1,334	0·88	...	...	...	...
36. Blackgram dhal	154	185	16	385	169	43	9·1	3·2	35	39·8	800	0·72	174	9	...	123
37. Chavli, small	70	33	...	384	...	...	3·8	...	...	248·3	1,236	1·42	2,428	46	...	...
38. Chavli, big	80	33	...	383	...	...	4·3	...	...	335·1	1,056	0·14	1,875	51	...	...
39. Cowgram	79	230	9	459	185	40	11·0	3·5	31	23·2	1,131	0·75	165	10	...	362
40. Field bean, dry	60	...	...	433	248	57	2·7	2·2	81	...	...	...	...	...	...	...
41. Greengram, whole	124	171	2	326	148	46	7·3	3·4	53	28·0	843	0·97	188	12	...	7
42. Greengram dhal	75	189	0	405	209	52	8·5	4·4	56	27·2	1,150	1·13	214	25	...	98
43. Horsegram	287	172	417	311	114	37	8·4	4·2	50	11·5	762	1·03	181	8	...	199
44. Khesari dhal	90	92	122	317	108	31	6·3	3·1	49	37·7	644	0·77	144	36	...	56
45. Lentil	69	94	14	293	100	34	4·8	2·0	42	40·1	629	0·66	104	19	...	1
46. Mothbeans	202	225	0	230	25	11	9·5	1·7	18	29·5	1,096	0·85	180	9	...	209
47. Peas, dried	75	124	0	298	135	45	5·1	3·7	73	20·4	725	0·85	189	59	...	41
48. Peas, roasted	81	122	0	345	136	40	6·4	3·8	58	14·7	750	1·32	200	73	...	13
49. "Rajmah"	260	...	...	410	...	...	5·8	...	...	...	...	...	...	...	...	...
50. "Rawan"	80	...	...	430	...	...	4·3	...	...	...	...	...	...	...	...	...
51. Redgram	73	133	9	304	170	56	5·8	2·6	45	28·5	1,104	1·25	177	5	...	140
52. Soyabean	240	...	...	690	...	...	11·5	...	...	...	...	0·88	...	...	...	52
53. Sutari	302	...	...	297	...	...	...	...	...	...	...	...	...	...	...	...

LEAFY VEGETABLES

54. Agast-ka-phool	9	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...
55. Agathi	1,130	...	...	80	...	...	3·9	0·8	19	...	...	...	...	...	...	...
56. Amaranth, tender	397	247	772	83	2	3	25·5	4·4	17	230	341	0·33	61	88	...	335
57. Amaranth, spined	800	...	...	50	...	...	22·9	...	...	...	...	...	...	...	...	...
58. Ambat chuka	63	...	...	17	...	...	8·7	...	...	...	...	...	...	...	...	...
59. Arai keerai	364	...	...	52	...	...	38·5	...	...	...	...	...	...	...	...	...
60. Bakala, green	111	...	...	149	...	...	...	...	...	...	...	...	...	...	...	...
61. Bamboo, tender shoots	20	32	2	65	...	...	0·1	...	...	91	...	0·19	...	76	...	...
62. Bathua leaves	150	...	...	45	...	...	6·0	...	...	...	...	...	...	...	...	...
63. Beet greens	380	...	...	30	...	...	16·2	...	...	...	...	...	...	...	...	...
64. Bengalgram leaves	340	...	...	120	...	...	23·8	...	...	...	...	...	...	...	...	...
65. Bottlegourd leaves	80	...	...	59	...	...	...	...	...	...	...	...	...	...	...	...
66. Brussels sprouts	43	26	4	82	5	6	1·8	0·5	28	7·9	477	0·07	212	22	...	13
67. Cabbage	39	10	3	44	3	7	0·8	0·3	38	14·1	114	0·08	67	12	...	25

II. Minerals. (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
68.	Carrot leaves	340	...	...	110	...	...	8·8	...	...	...	...	...	...	...	...	...
69.	Cauliflower greens	626	...	...	107			40·0	...	..	...	...	...	...	..	...	...
70.	Celery leaves	230	52	37	140	6	4	6·3	2·3	36	35·5	210	0·30	102	19	...	52
71.	Ceylon pasali	120	...	...	16	...	...	0·9	...	...	...	...	...	...	...	...	...
72.	Chakravarthi keerai	321	...	...	71	...	...	18·0	...	...		...	...	...	...	...	...
73.	Chekkur manis	570	...	...	200	...	...	28·0	...	...	...	...	...	...	...	...	...
74.	Chimti sag	194	...	...	48	...	...	...	...	...	...	...	...	...	...	...	...
75.	Chowli	290	...	...	58	...	...	20·1	...	...	...	...	...	...	...	...	...
76.	Chozhi keerai	232	...	...	23	...	...	17·8	...	...	...	...	...	...	...	...	...
77.	"Colombo keera"	90	...	...	130	...	...	11·9	...	...	...	...	...	...	...	...	...
78.	Colocasia—black variety, leaves	460	...	...	125	...	...	38·7	...	...	...	...	...	...	...	...	...
79.	Colocasia—green variety, leaves	290	...	...	85	...	...	14·3	...	...	...	...	...	...	...	...	...
80.	Colocasia—black variety, stem	80	...	...	25	...	...	5·1	...	...	...	...	...	...	...	...	...
81.	Colocasia—green variety stem	30	...	...	30	...	...	2·4	...	...	...	...	...	...	...	...	...
82.	Colocasia—green leaves and stem	163	70	113	68	0	0	5·6	2·4	43	...	...	2·38	37	168	...	...
83.	Colocasia leaves, dried	1,546	...	...	308	...	...	...	...	...	...	...	...	...	...	...	...
84.	Coriander leaves	184	64	47	62	0	0	18·5	1·4	6	58·3	256	0·53	49	43	...	153
85.	Curry leaves	830	221	132	57	35	61	7·0	3·5	50	...	...	0·21	81	198	...	...
86.	Drumstick leaves	440	24	101	70	44	64	7·0	1·6	23	...	259	0·62	137	423	...	55

87. Fenugreek	360	67	13	51	0	0	17·2	2·7	16	76·1	31	0·26	167	165	...	92
88. Fetid cassia	417	...	...	54	...	...	...	...	...	...	...	...	...	...	...	...
89. Fetid cassia, dried	3,200	...	...	292	...	...		...	...	...	...	...	...	...	...	...
90. Garden cress	360	...	...	110	...	...	28·6	...	...	...	...	...	...	...	...	...
91. Garden sorrel (sepals)	130	...	...	20	...	...	1·7	...	...	...	...	...	...	...	...	...
92. Giria sag (Moras)	50	...		79	...	...	1·6	...	...	...	...	...	...	...	...	...
93. "Gogu"	172	35	148	40	...	...	5·0	...	...	...	...	...	60	19	...	...
94. Gulcharni	59	...	...	60	...	...	...	...	...	...	...	...	...	...	...	...
95. Gram leaves	310	...	...	210	...	...	28·3	...	...	...	...	...	...	...	...	...
96. Ipomoea leaves	110	...	...	46	0	0	3·9	...	...	...	...	...	...	...	...	...
97. Jute plant	237	...	...	99	...	...	...	...	...	...	...	...	...	...	...	...
98. Kasini keerai	94	...	...	21	...	...	8·0	...	...	...	...	...	...	...	...	...
99. Kalavan keerai	624	...	...	85	...	...	24·0	...	...	...	...	...	...	...	...	...
100. Karsnanganni keerai (white)	306	...	...	462	...	...	8·9	...	...	...	...	...	...	...	...	...
101. Karsnanganni keerai (yellow)	39	...	...	10	...	...	3·9	...	...	...	...	...	...	...	...	...
102. Katha sag	253	...	...	35	...	...	...	...	...	...	...	...	...	...	...	...
103. Kena sag	100	...	...	50	...	...	...	...	...	...	...	...	...	...	...	...
104. Khesari leaves	160	...	...	100	...	...	7·3	...	...	...	...	...	...	...	...	...
105. Knol-khol greens	67	...	...	51	...	...	5·2	...	...	...	...	...	...	...	...	...
106. Koila karha sag	330	...	...	21	...	...	...	...	...	...	...	...	...	...	...	...
107. Konar sag	312	...	...	92	...	...	...	...	...	...	...	...	...	...	...	...
108. Koya keerai	293	...	...	51	...	...	2·5	...	...	...	...	...	...	...	...	...
109. Kulfa	100	...	...	40	...	...	11·0	...	...	...	...	...	...	...	...	...
110. Kuppameni	667	...	...	99	...	...	17·3	...	...	...	...	...	...	...	...	...
111. Kuppakeerai	330	...	...	52	...	...	18·7	...	...	...	...	...	...	...	...	...
112. Lettuce	50	30	...	28	0	0	2·4	1·0	42	58·0	33	0·08	27	23	...	41
113. Lettuce tree leaves, tender	170	...	...	60	...	...	3·6	...	...	...	...	...	...	...	...	...
114. Lettuce tree leaves, mature	320	...	...	80	...	...	2·6	...	...	...	...	...	...	...	...	...
115. Love-lies-bleeding	200	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...
116. Manal keerai	370	...	...	67	...	...	12·3	...	...	...	...	...	...	...	...	...
117. "Manathakkali"	410	...	...	70	...	...	20·5	...	...	...	...	...	...	...	...	...
118. Mata sag (lupu)	1,717	...	...	80	...	...	...	...	...	...	...	...	...	...	...	...
119. Mayalu	200	...	...	35	...	...	10·0	...	...	...	...	...	...	...	...	...
120. Minmini keerai	347	...	...	70	...	...	13·7	...	...	...	...	...	...	...	...	...
121. Mint	200	...	33	62	4	6	15·6	1·4	9	...	...	...	84	34	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
123.	Mukarratai	667	...	...	99	...	...	18·4	...	...	...	...	...	...	...	...	...
124.	Mustard leaves	155	...	...	26	...	...	16·3	...	...	...	...	...	...	...	...	...
125.	Nachukottai keerai	585	...	...	45	...	...	41·6	...	...	...	...	...	...	...	...	...
126.	Neem, mature	510	...	...	80	...	...	17·1	...	...	...	...	...	...	...	...	...
127.	Neem, tender	130	127	152	190	104	55	25·3	6·2	24	72·2	254	0·60	96	26	...	75
128.	Nerringi	1,550	...	...	82	...	...	9·2	...	...	...	...	...	...	...	...	...
129.	Nisorha ka phool	1,740	...	...	116	...	...	...	...	...	...	...	...	...	...	...	...
130.	Onion tops	78	...	...	14	...	...	...	...	...	...	...	...	...	...	...	...
131.	Pacharisi keerai	546	...	...	106	...	...	21·2	...	...	...	...	...	...	...	...	...
132.	Panna keerai	268	...	...	33	...	...	24·0	...	...	...	...	...	...	...	...	...
133.	Parsley	390	...	...	175	16	9	17·9	3·2	17	...	...	...	...	...	...	...
134.	Parwar sag	531	...	...	73	...	...	...	...	...	...	...	...	...	...	...	...
135.	Patua sag	241	...	...	93	...	...	...	...	...	...	...	...	...	...	...	...
136.	Paruppu keerai	111	120	1,679	45	4	9	14·8	1·0	7	67·2	716	0·19	63	73	...	317
137.	Pasarai keerai	148	...	...	25	...	...	58·2	...	...	...	...	...	...	...	...	...
138.	Ponnanganni leaves	510	...	...	60	...	...	16·7	...	...	...	...	...	...	...	...	...
139.	Potato leaves	120	...	...	50	...	...	...	...	...	...	...	...	...	...	...	...
140.	Puliara keerai	116	...	...	35	...	...	4·1	...	...	...	...	...	...	...	...	...
141.	Pumpkin leaves	392	...	...	112	...	...	...	...	...	...	...	...	...	...	...	...
142.	Pumpkin flowers	120	...	...	60	...	...	...	...	...	...	...	...	...	...	...	...
143.	Punnaku keerai	250	...	...	38	...	...	35·7	...	...	...	...	...	...	...	...	...
144.	Radish tops	295	...	...	60	...	...	16·1	...	...	...	...	...	...	...	...	...
145.	Rajagira leaves	530	...	...	60	...	...	18·4	...	...	...	...	...	...	...	...	...
146.	Rape leaves	370	...	...	110	...	...	12·5	...	...	...	...	...	...	...	...	...
147.	Rape leaves, dried	3,095	...	...	500	...	...	...	...	...	...	...	...	...	...	...	...

148. Safflower leaves	185	51	3	35	...	...	5·7	...	...	126·4	181	0·22	...	235	...	...
149. Sanhemp flower	200	...	...	100	...	...	...	...	...	...	...	...	...	...	...	...
150. Saranti sag	312	...	...	58	...	...	...	...	...	...	...	...	...	...	...	...
151. Saravallai keerai	100	...	...	30	...	...	38·5	...	...	...	...	...	...	...	...	...
152. Sarlisag	127	...	...	51	...	...	...	...	...	...	...	...	...	...	...	...
153. Sarlisag (lupu) dried	1,400	...	...	80	...	...	...	...	...	...	...	...	...	...	...	...
154. Seemai ponnanganni	322	...	...	29	...	...	16·8	...	...	...	...	...	...	...	...	...
155. Silk cotton flowers	22	...	...	45	...	...	...	...	...	...	...	...	...	...	...	...
156. Shepu	190	...	...	42	...	...	17·4	...	...	...	...	...	...	...	...	...
157. Sinduar sag (cultivated)	323	...	...	38	...	...	...	...	...	...	...	...	...	...	...	...
158. Sinduar sag (wild)	104	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...
159. Sirukeerai	251	...	...	55	...	...	27·3	...	...	...	...	...	...	...	...	...
160. Sonchaal saag	300	...	...	60	...	...	19·5	...	...	...	680	0·39	...	...	...	...
161. Spinach	73	84	658	21	0	0	10·9	0·9	8	58·5	206	0·01	30	54	...	134
162. Soya leaves	180	...	...	190	...	...	8·0	...	...	...	...	...	...	...	...	...
163. Sowa sag	248	...	...	74	...	...	...	...	...	...	...	...	...	...	...	...
164. Susni sag	53	...	...	91	...	...	...	...	...	...	...	...	...	...	...	...
165. Sweet potato greens	360	...	...	60	...	...	10·0	...	...	...	...	...	...	...	...	...
166. Table radish, leaves	310	...	...	60	...	...	18·0	...	...	...	...	...	...	...	...	...
167. Tamarind leaves, tender	101	71	196	140	0	0	5·2	0	0	...	...	2·09	63	94	...	...
168. Tamarind shoots, tender, dried	1,485	...	...	124	...	...	...	...	...	...	...	...	...	...	...	...
169. Takla	520	...	...	39	...	...	12·4	...	...	...	...	...	...	...	...	...
170. Thuthi keerai	550	...	...	117	...	...	11·3	...	...	...	...	...	...	...	...	...
171. Thooduvalai keerai	334	...	...	52	...	...	5·0	...	...	...	...	...	...	...	...	...
172. Turnip greens	710	...	...	60	...	...	28·4	...	...	...	...	...	...	...	...	...
173. Utarba	254	...	...	78	...	...	...	...	...	...	...	...	...	...	...	...
174. Vadhanarayanan keerai	299	...	...	98	...	...	8·9	...	...	...	...	...	...	...	...	...
175. Veethi keerai	366	...	...	62	...	...	11·5	...	...	...	...	...	...	...	...	...
176. Velai keerai	778	...	...	100	...	...	31·6	...	...	...	...	...	...	...	...	...
177. Vella keerai	881	...	...	73	...	...	24·4	...	...	...	...	...	...	...	...	...
178. Vellari keerai	224	...	...	32	...	...	68·8	...	...	...	...	...	...	...	...	...
179. Watercress	290	...	...	140	...	...	4·6	...	...	...	...	...	...	...	...	...
180. Waterlily flowers	29	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...
ROOTS AND TUBERS																
181. "Arwa Gadda"	30	...	...	20	...	...	2·2	...	...	...	...	...	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus			Iron			Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution	
					Total (a) mg.	Phytin (b) mg.	(b) as per cent of (a)	Total (c) mg.	Ionisable (d) mg.	(d) as per cent of (c)						Acid	Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
182.	Banana rhizome	25	...	...	10	...	...	1·1	...	...	...	...	...	...	...	...	...
183.	Beet root	200	9	40	55	0	0	1·0	0·5	50	59·8	43	0·20	14	24	...	31
184.	Bokwa	25	...	...	63	...	...	...	...	...	...	...	...	...	...	...	...
185.	Bola	13	...	...	73	...	...	1·0	...	...	...	...	...	...	...	...	...
186.	Budhia	200	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...
187.	Canna, edible	20	...	...	25	...	...	0·8	...	...	...	...	...	...	...	...	...
188.	Carrot	80	14	5	30	0	0	2·2	0·3	14	35·6	108	0·13	27	13	...	40
189.	Chumbia	52	...	...	49	...	...	...	...	...	...	...	...	...	...	...	...
190.	Churkiyan baiyang	19	...	...	38	...	...	...	...	...	...	...	...	...	...	...	...
191.	Colocasia	40	...	...	140	...	...	1·7	0·3	18	9·0	550	...	...	...	...	...
192.	Epedong sanga	277	...	...	59	...	...	...	...	...	...	...	...	...	...	...	...
193.	Goti gadda	60	135	15	204	20	19	13·9	5·2	37	25·2	326	0·22	173	93	35	...
194.	Jipoo sanga	11	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...
195.	Kapu sanga	14	...	...	94	...	...	...	...	...	...	...	...	...	...	...	...
196.	Khamealu	21	...	...	41	...	...	...	...	...	...	...	...	...	...	...	...
197.	Lotus root	21	...	...	74	...	...	0·4	...	...	...	...	...	...	...	...	...
198.	Mango ginger	25	...	...	90	...	...	2·6	...	...	...	...	...	...	...	...	...
199.	Moor sanga dhak	25	...	...	21	...	...	...	...	...	...	...	...	...	...	...	...
200.	Murum sanga	24	...	...	24	...	...	...	...	...	...	...	...	...	...	...	...
201.	"Nulu gadda"	70	...	...	20	...	...	1·4	...	...	...	...	...	...	...	...	...
202.	Ochen sanga	64	...	...	89	...	...	...	...	...	...	...	...	...	...	...	...
203.	"Onthalai gasu"	10	...	...	20	...	...	0·5	...	...	...	...	...	...	...	...	...
204.	Onion, big	180	...	...	50	...	...	0·7	...	...	...	...	...	...	...	...	...
205.	Onion, small	40	...	1	60	...	...	1·2	1·1	91	4·0	127	...	...	...	...	...
206.	Parsnip	50	...	20	40	4	10	0·5	0·5	100	...	...	...	...	...	...	...

207. Potato	10	20	20	40	14	35	0·7	0·2	28	11·0	247	0·20	37	16	...	25
208. Radish, white	50	...	9	22	0	0	0·4	...	...	33·0	138	...	...	...	...	...
209. Radish, pink	50	9	20	20	13	65	0·5	0·1	20	63·5	10	0·19	31	11	...	28
210. Radish, rat-tailed	78	...	...	24	...	...	...	...	...	...	...	...	...	...	...	...
211. Song	39	...	...	64	...	...	...	...	...	...	...	...	...	...	...	...
212. Sweet potato	20	...	...	50	...	...	0·8	...	...	9·0	393	...	...	...	...	...
213. Tapioca	50	...	...	40	...	...	0·9	...	...	...	...	...	...	...	...	...
214. Tapioca chips, dried	91	66	31	70	17	24	3·6	0·5	13	7·5	764	0·15	58	10	...	214
215. Tigo	23	...	...	42	...	...	...	...	...	...	...	...	...	...	...	...
216. Turnip	30	...	...	40	0	0	0·4	...	...	...	...	...	...	...	...	...
217. Turum sanga	342	...	...	19	...	...	...	...	...	...	...	...	...	...	...	...
218. Usingid	520	...	...	42	...	...	...	...	...	...	...	...	...	...	...	...
219. Yam (ordinary)	60	...	...	20	...	...	1·3	...	...	9·0	237	...	...	...	...	...
220. Yam (elephant)	50	...	...	34	4	12	0·6	0·4	66	...	...	...	...	...	...	...
221. Yam, wild	20	34	15	74	7	9	1·0	0	0	11·0	450	0·16	35	29	...	102
222. Water lily, white	65	...	...	217	...	...	...	...	...	...	...	...	...	...	...	...
223. Water lily, red	76	...	...	220	...	...	...	...	...	...	...	...	...	...	...	...
OTHER VEGETABLES																
224. Amaranth, stem	260	...	...	30	0	0	1·8	1·4	77	...	...	...	...	...	...	...
225. Amaranth seed (Arakkeerai)	490	...	...	470	...	...	11·3	...	...	...	...	...	...	...	...	...
226. Amaranth seed (Thandukkeerai)	460	...	...	370	...	...	10·1	...	...	...	...	...	...	...	...	...
227. Amaranth seed (Sirukeerai)	580	...	...	350	...	...	11·7	...	...	...	...	...	...	...	...	...
228. Artichoke	120	...	...	100	...	...	2·3	...	...	...	...	...	...	...	...	...
229. Ashgourd	30	...	...	20	...	...	0·8	0·6	75	...	...	...	...	...	...	...
230. Bagnaha	64	...	...	81	...	...	...	...	...	...	...	...	...	...	...	...
231. Beans, runner or scarlet	50	...	...	160	...	...	2·6	...	...	...	...	...	...	...	...	...
232. Bittergourd	20	17	0	70	4	6	1·8	0·6	33	17·8	152	0·18	15	8	...	15
233. Bittergourd, small variety	50	21	...	140	26	19	9·4	...	...	2·4	171	0·19	21	8	18	...
234. Brinjal	18	16	18	47	3	6	0·9	0·8	88	3·0	200	0·17	44	52	...	472
235. Broad beans	50	33	1	63	...	...	1·4	0·6	42	43·5	39	0·17	53	43	5	...
236. Calabash cucumber	20	5	0	10	0	0	0·7	...	...	1·8	87	0·03	10	5	...	24
237. Cauliflower	33	20	19	57	10	...	1·5	0·4	27	53·0	138	0·05	231	34	101	...
238. Celery stalks	30	...	...	38	1	3	4·8	...	...	...	...	...	...	...	...	...
239. Chaltha	16	...	...	26	...	...	...	...	...	...	...	...	...	...	...	...
240. "Cho-cho" marrow	140	...	...	30	0	0	0·6	...	...	...	...	...	...	...	...	...

II. Minerals. (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
241.	Cluster beans	111	...	...	57	3	6	4·5	0·8	18	...	...	...	...	...	...	...
242.	Colocasia stems	60	...	...	20	...	...	0·5	...	...	...	...	...	...	...	...	...
243.	Cowpea pod (red)	80	...	...	74	...	...	2·5	...	...	...	...	...	...	...	...	...
244.	Cowpea pod (white)	63	...	...	43	...	...	...	...	...	...	...	...	...	...	...	...
245.	Cucumber	10	11	15	25	0	0	1·5	1·1	73	10·2	50	0·10	17	15	0	0
246.	Daincha seeds	240	...	...	390	...	...	16·5	...	...	...	...	...	...	...	...	...
247.	Double beans	40	...	...	140	8	5	2·3	1·6	69	...	...	...	...	...	...	...
248.	Drumstick	30	24	101	110	44	40	5·3	1·5	28	...	259	0·60	137	423	...	...
249.	Field beans, tender	210	34	1	68	...	...	1·7	...	...	55·4	74	0·13	40	31	...	98
250.	Figs, red	187	...	...	39	...	...	...	...	...	...	...	...	...	...	...	...
251.	French beans	50	29	31	28	0	0	1·7	1·0	59	4·3	120	0·21	37	10	...	38
252.	Ghosala	36	...	...	19	...	...	1·1	...	...	...	...	...	...	...	...	...
253.	Giant chillies	16	...	...	32	...	...	1·5	...	...	...	...	...	...	...	...	...
254.	Green papaya	34	...	...	64	...	...	...	...	...	23·0	216	...	...	...	...	...
255.	Ipomoea stems	80	...	...	30	0	0	0·8	...	...	...	...	...	...	...	...	...
256.	Jack, tender	30	...	...	40	...	...	1·7	...	...	35·0	328	...	...	...	...	...
257.	Jackfruit seeds	50	54	4	97	40	42	1·5	0·6	40	63·2	246	0·19	356	14	181	...
258.	Kachha Boorooi	30	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...
259.	Kandan kathiri	100	...	..	90	...	...	1·2	...	...	...	...	...	...	...	...	...
260.	Kankoda	33	...	...	42	...	...	4·6	...	...	...	...	...	...	...	...	...
261.	Karonda	21	...	...	28	...	...	...	...	...	...	...	...	...	...	...	...
262.	Kheksa (big), hilly variety	27	...	...	38	...	...	...	...	...	...	...	...	...	...	...	...
263.	Kovai fruit, tender	40	...	...	30	...	...	1·4	...	...	...	...	...	...	...	...	...
264.	Knol-khol	20	18	10	35	0	0	0·4	...	...	112	37	0·09	143	67	59	...

265. Kutcha barhar	67	...	...	25	...	...	...	...	...	...	...	...	...	...	...	...
266. Ladies fingers	66	43	8	56	0	0	1·5	0·6	40	6·9	103	0·19	30	41	...	17
267. Lama-ke-Biyaka gudda	284	...	...	608	...	...	...	...	...	...	...	...	...	...	...	...
268. Leeks	50	...	...	70	...	...	2·3	...	...	...	...	...	...	...	...	...
269. Mahua fruits	51	...	...	22	...	...	...	...	...	...	...	...	...	...	...	...
270. Mango, green	10	21	6	19	5	26	5·4	0·9	17	43·0	83	0·24	15	2	...	40
271. Mango seed kernel (Totapuri)	30	...	...	90	...	...	0·8	...	...	...	...	...	...	...	...	...
272. Mango seed kernel (Neelam)	50	...	...	110	...	...	0·7	...	...	...	...	...	...	...	...	...
273. Mogra (red variety)	97	...	...	25	...	...	3·9	...	...	...	...	...	...	...	...	...
274. Mogra (green)	98	...	...	34	...	...	2·5	...	...	...	...	...	...	...	...	...
275. Mushroom, paddy straw	10	...	...	100	...	...	1·5	...	...	...	...	...	...	...	...	...
276. Nellikai	50	...	296	20	...	...	1·2	...	...	5·0	225	0·18	...	...	...	...
277. Nut of avocado pear	20	...	...	80	...	...	1·2	...	...	...	...	...	...	...	...	...
278. Onion stalks	50	15	14	50	19	38	7·5	0·2	...	2·2	109	0·14	33	7	...	11
279. "Parwar"	30	9	7	40	8	20	1·7	0·5	30	2·6	83	1·11	17	4	...	6
280. Peas, English	20	34	14	139	55	40	1·5	1·5	100	7·8	79	0·23	95	20	94	...
281. Pink beans	54	...	...	70	38	54	1·5	...	...	32·2	117	0·13	182	47	...	...
282. Plantain flower	32	54	420	42	...	...	1·6	...	...	20·1	185	0·10	68	68	...	28
283. Plantain, green	10	33	480	28	11	37	0·6	0·5	83	15·0	193	0·16	15	6	...	59
284. Plantain, stem	10	...	...	10	...	...	1·1	...	...	...	...	...	...	...	...	...
285. Pumpkin	10	14	...	30	...	...	0·7	...	...	5·6	139	0·20	16	4	...	25
286. Radish, table	20	...	...	20	...	...	1·0	...	...	...	...	...	...	...	...	...
287. Radish tops, green pods	152	...	...	66	...	...	...	...	...	...	...	...	...	...	...	...
288. Rape plant stem	100	...	...	100	...	...	1·2	...	...	...	...	...	...	...	...	...
289. Redgram, tender	57	58	16	164	...	...	1·1	...	...	93·0	463	0·40	494	22	186	...
290. Rhubarb stalks	120	...	...	10	...	...	2·2	...	...	...	...	...	...	...	...	...
291. Ridge gourd	40	11	27	40	11	28	1·6	0·2	13	2·9	50	0·16	14	7	...	6
292. Sanga ka phal	16	...	...	48	...	...	...	...	...	...	...	...	...	...	...	...
293. Seaweed-Gracilaria	60	...	...	10	...	...	5·9	...	...	...	...	...	...	...	...	...
294. Seaweed-Gracilaria	890	...	...	110	...	...	...	...	...	...	...	...	...	...	...	...
295. Seaweed-Hypnea	150	...	...	10	...	...	8·3	...	...	...	...	...	...	...	...	...
296. Seaweed-Hypnea	1,600	...	...	150	...	...	...	...	...	...	...	...	...	...	...	...
297. Seaweed-Ulva	190	...	...	10	...	...	5·9	...	...	...	...	...	...	...	...	...
298. Seaweed-Ulva	2,140	...	...	80	...	...	...	...	...	...	...	...	...	...	...	...
299. Snakegourd	50	53	34	20	0	0	1·1	0·2	18	25·4	34	0·11	35	21	...	48

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
300.	Spinach stalks	90	...	1	20	0	0	1·6	0·7	43	...	...	...	...	...	...	...
301.	"Sundakai" dry	390	...	...	180	...	...	22·2	...	...	...	...	...	...	...	...	...
302.	Sword beans	60	...	...	40	...	...	2·0	...	...	29·0	1,800	...	...	...	...	...
303.	Tetralobar bean	30	...	...	20	...	...	...	...	...	...	...	...	...	...	...	...
304.	Tinda, tender	25	14	2	24	...	...	0·9	...	...	35·0	24	0·12	...	44	...	...
305.	Tomato, green	20	15	2	36	0	0	1·8	0·2	11	45·8	114	0·19	24	38	...	22
306.	Vegetable marrow	10	13	56	30	...	...	0·6	...	...	27·3	94	0·22	11	9	...	1
307.	Water chestnut	20	...	...	150	...	...	0·8	...	...	...	...	...	...	...	...	...
	NUTS AND OIL SEEDS																
309.	Almond	230	...	407	490	...	...	4·5	2·4	53	...	...	...	...	...	...	...
310.	Cashewnut	50	...	318	450	...	...	5·0	2·0	40	...	...	...	...	...	...	...
311.	Charoli seeds	279	373	2	528	158	30	8·5	6·5	76	10·2	436	0·86	186	25	...	5
312.	Coconut, dry	400	...	...	210	...	...	2·7	...	...	...	...	...	...	...	...	...
313.	Garden cress seeds	377	430	149	723	442	61	100·0	6·0	6	...	...	...	1	41	...	...
314.	Gingelly seeds	1,450	...	1,700	570	...	...	10·5	...	...	...	...	...	...	...	...	...
315.	Groundnut	50	...	...	390	...	...	1·6	0·5	31	...	...	...	...	...	...	...
316.	Groundnut, roasted	50	...	...	440	...	...	0·3	...	...	...	...	...	...	...	...	...
317.	Jungli Badam	33	274	0	415	197	48	1·7	0	0	...	517	0·82	122	12	...	...
318.	Kusumb seeds	236	...	...	823	...	...	...	...	...	...	...	...	...	...	...	...
319.	Linseed seeds	170	...	...	370	...	...	2·7	1·0	37	...	...	...	...	...	...	...
320.	Mustard seeds	490	...	...	700	...	...	17·9	2·3	13	...	...	...	...	...	...	...
321.	Niger seed	300	...	...	224	...	...	56·5	...	...	...	...	...	...	...	...	...
322.	Oysternut	10	...	...	570	...	...	4·1	...	...	...	...	...	...	...	...	...

323. Pistachio nut	140	...	...	430	...	...	13·7	...	...	...	...	...	...	...	...	...
324. Sunflower seeds	280	...	...	670	...	...	5·0	...	...	...	...	...	...	...	...	...
325. Walnut	100	...	...	380	...	...	4·8	...	...	...	...	...	...	...	...	...
CONDIMENTS, SPICES ETC.																
326. Arisithippili	460	...	...	325	56	17	13·5	3·1	23	...	...	...	...	...	...	...
327. Asafoetida	690	...	...	50	...	...	22·2	...	...	...	...	...	...	...	...	...
328. Cardamom	130	...	...	160	...	...	5·0	0·6	12	...	...	...	...	...	...	...
329. Chillies, green	30	24	67	80	7	9	1·2	0·4	33	6·5	217	1·55	34	15	...	12
330. Chillies, dry	160	...	...	370	71	19	2·3	1·3	56	14	530	...	...	...	...	...
331. Cloves, dry	740	...	...	100	...	...	4·9	...	...	...	...	...	...	...	...	...
332. Cloves, green	310	...	...	40	...	...	2·1	...	...	...	...	...	...	...	...	...
333. Coriander	630	...	...	393	320	81	17·9	2·1	12	32	990	...	...	...	...	...
334. Cumin seeds	1,080	...	...	511	153	30	31·0	...	...	126·0	980	...	...	...	...	...
335. Fenugreek seeds	160	...	...	370	..	...	14·1	...	...	19·0	530	...	...	...	...	...
336. Garlic, dry	30	...	...	310	0	0	1·3	0·7	54	...	...	...	...	...	...	...
337. Ginger, fresh	20	...	...	60	...	...	2·6	0·6	23	...	...	...	...	...	...	...
338. Kandanthippili	1,230	...	...	190	...	...	62·1	...	...	...	...	...	...	...	...	...
339. Lime peel	710	...	...	60	...	...	2·7	...	...	...	...	...	...	...	...	...
340. Mace	180	...	...	100	...	...	12·6	..	...	...	...	...	...	...	...	...
341. Nutmeg	120	...	...	240	...	...	4·6	0·7	15	...	...	...	...	...	...	...
342. Nutmeg rind	40	...	...	10	...	...	2·0	...	...	...	...	...	...	...	...	...
343. Omum	1,525	...	...	443	296	67	27·7	2·7	10	56·0	1,390	...	...	...	...	...
344. Pepper, green	270	...	...	70	...	...	2·4	...	...	...	...	...	...	...	...	...
345. Pepper, dry	460	...	...	198	115	58	16·8	3·2	19	...	...	...	...	...	...	...
346. Tamarind pulp	170	...	...	110	...	...	10·9	2·4	22	...	...	...	...	...	...	...
347. Turmeric	150	...	...	282	97	34	18·6	1·8	9	25·0	3,300	...	...	...	...	...
FRUITS AND FRUIT PRODUCTS																
348. Ambada	36	...	...	11	...	...	3·9	...	...	...	...	...	...	...	...	...
349. Apple	9	7	10	20	0	0	1·0	0·3	30	28·0	75	0·13	7	1	...	24
350. Apple, Ambri sev	10	...	...	20	...	..	1·0	...	...	...	...	...	...	...	...	...
351. Apple, Desi sev	10	...	...	10	...	...	1·0	...	...	...	...	...	...	...	...	...
352. Apple, golden sev	10	...	...	10	...	...	1·0	...	...	...	...	...	...	...	...	...
353. Apple, Kotgarh sev	10	...	...	10	...	...	1·8	...	...	...	...	...	...	...	...	...
354. Apple, Kulu sev	10	...	...	10	...	...	1·0	...	...	...	...	...	...	...	...	...
355. Apple, Maharaji sev	10	...	...	10	...	...	1·1	...	...	...	...	...	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	5	16	17	18
356.	Apple, Red Royal, large	10	...	...	10	...	...	1·0	...	...	...	...	...	...	...	...	...
357.	Apricots, fresh	20	...	...	25	...	...	2·2	...	...	...	430	0·11	...	...	...	...
358.	Apricots, dried	110	...	...	70	...	...	4·6	...	...	...	...	...	...	...	...	...
359.	Bael fruit	85	...	...	50	...	...	0·6	...	...	...	600	0·21	...	...	...	...
360.	Baincha	100	...	...	100	...	...	...	...	...	...	...	...	...	...	...	...
361.	Bamboo fruit	10	...	...	110	...	...	1·5	...	...	...	...	...	...	...	...	...
362.	Banana, ordinary	10	34	2	30	4	13	0·5	0·3	60	36·6	88	0·40	7	8	...	47
363.	Banana "Anaikombu" hill variety	10	...	...	30	...	...	0·3	...	...	...	...	...	...	...	...	...
364.	Banana, Chitridar kela	10	...	...	20	...	...	1·0	...	...	...	...	...	...	...	...	...
365.	Banana, green variety	26	...	...	37	...	...	2·1	...	...	...	...	...	...	...	...	...
366.	Banana, Krishna vazhai	20	...	...	40	...	...	0·6	...	...	...	...	...	...	...	...	...
367.	Banana, Laden	10	...	...	30	...	...	0·6	...	...	...	...	...	...	...	...	...
368.	Banana, Nendran	10	...	...	50	...	...	0·4	...	...	...	...	...	...	...	...	...
369.	Banana, Pachanadan	20	...	...	40	...	...	0·7	...	...	...	...	...	...	...	...	...
370.	Banana, Raja vazhai	20	...	...	30	...	...	0·6	...	...	...	...	...	...	...	...	...
371.	Banana, Rasthali	10	...	...	30	...	...	0·4	...	...	...	...	...	...	...	...	...
372.	Banana, Red variety	16	...	...	31	...	...	1·5	...	...	...	...	...	...	...	...	...
373.	Banana, Thenkadali	20	...	...	40	...	...	0·8	...	...	...	...	...	...	...	...	...
374.	Banana, Thenkunnam	20	...	...	50	...	...	0·5	...	...	...	...	...	...	...	...	...
375.	Banana, Vellakadali	20	...	...	40	...	...	0·5	...	...	...	...	...	...	...	...	...
376.	Banana, yellow large	25	...	...	40	...	...	1·7	...	...	...	...	...	...	...	...	...
377.	Banana, yellow small	23	...	...	41	...	...	2·1	...	..	...	...	...	...	...	...	...
378.	Barhar	50	...	...	20	...	...	0·5	...	...	...	...	...	...	...	...	...

379. Banyan tree figs	364	...	...	43	...	...	...	...	...	...	...	...	...	...	...	...
380. Bastard lichi	15	...	...	35	...	...	...	...	...	...	...	...	...	...	...	...
381. Bid root	11	...	...	133	...	...	...	...	...	...	...	...	...	...	...	...
382. Bilimbi	15	...	...	10	...	...	1·2	...	...	...	130	0·05	...	...	...	...
383. Blackberry	30	...	...	20	...	...	4·3	...	...	...	...	...	...	...	...	...
384. Bor	4	...	...	9	...	...	1·8	...	...	...	...	...	...	...	...	...
385. Borooee	68	...	...	64	...	...	...	...	...	...	...	...	...	...	...	...
386. Bread fruit	40	...	...	30	...	...	0·5	...	...	...	...	...	...	...	...	...
387. Bullock's heart	10	...	...	10	...	...	0·6	...	...	...	...	...	...	...	...	...
388. Cape gooseberry	10	31	1	67	18	27	2·0	0·9	45	0·9	320	0·19	43	12	...	43
389. Cashew apple, fleshy peduncle	4	...	...	21	...	...	...	...	...	...	...	...	...	...	...	...
390. Cashew fruit	10	...	...	10	...	...	0·2	...	...	...	...	...	...	...	...	...
391. Cherries, red	24	...	...	25	...	...	1·3	...	...	...	320	0·02	...	...	...	...
392. Chibhood	42	...	...	16	...	...	1·1	...	...	...	...	...	...	...	...	...
393. Cherimoyer	30	...	...	20	...	...	0·4	...	...	...	...	...	...	...	...	...
394. Currants, black	130	...	...	110	...	...	8·5	1·3	15	...	...	...	...	...	...	...
395. Dates, dried	120	...	...	50	...	...	7·3	...	...	...	...	...	...	...	...	...
396. Dates, preserved (Persian)	70	...	...	80	...	...	10·6	...	...	...	...	...	...	...	...	...
397. Dates (Indian)	22	...	...	38	...	...	...	...	...	...	...	...	...	...	...	...
398. Durain, ripe	10	...	...	50	...	...	1·0	...	...	...	...	...	...	...	...	...
399. Figs	60	...	...	30	...	...	1·2	...	...	...	...	...	...	...	...	...
400. Gab	58	...	...	27	...	...	...	...	...	...	...	...	...	...	...	...
401. "Galgal" (sour lime)	20	...	...	10	...	...	2·1	...	...	...	140	0·11	...	...	...	...
402. Grapes (blue variety)	20	...	3	23	...	...	1·3	...	...	...	...	...	...	...	...	...
403. Grapes (pale green variety)	20	...	...	30	...	...	1·5	...	...	...	...	...	...	...	...	...
404. Grapefruit (Triumph)	20	...	...	20	...	...	0·2	...	...	...	...	...	...	...	...	...
405. Grapefruit (Marsh's seedless)	30	...	...	30	...	...	0·2	...	...	...	...	...	...	...	...	...
406. Guava, country	10	8	14	28	15	54	1·4	1·4	100	5·5	91	0·34	14	4	...	9
407. Guava, hill	50	...	...	20	...	...	1·2	...	...	...	...	...	...	...	...	...
408. Guava, Japanese	50	...	...	20	...	...	0·6	...	...	...	...	...	...	...	...	...
409. Harfarowrie	6	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...
410. Hoormed	145	...	...	80	...	...	...	...	...	...	...	...	...	...	...	...
411. Indian prune, ripe and fresh	10	...	...	18	...	...	...	...	...	...	...	...	...	...	...	...
412. Jackfruit	20	27	27	41	17	41	0·5	...	...	41·1	191	0·23	69	9	...	28

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus			Iron			Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution	
					Total (a) mg.	Phytin (b) mg.	(b) as per cent of (a)	Total (c) mg.	Ionisable (d) mg.	(d) as per cent of (c)						Acid	Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	5	16	17	18
413.	Jam	17	...	...	3	...	...	0·1	...	...	...	...	...	...	...	...	...
414.	Jamun, big	8	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
415.	Jambu fruit	15	35	89	15	2	13	1·2	0·1	8	26·2	55	0·23	13	8	...	41
416.	Jurmata	115	...	...	101	...	...	...	...	...	...	...	...	...	...	...	...
417.	Kamrak	4	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...
418.	"Karwanda", green	...	...	...	...	...	...	...	...	...	...	...	...	...	47	...	...
419.	"Karwanda", dry	160	...	...	60	...	...	39·1	...	...	...	...	...	...	...	...	...
420.	Kesaur	11	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...
421.	"Kila pazham", small	20	...	...	10	...	...	1·4	...	...	...	...	...	...	...	...	...
422.	"Korukka palli"	14	40	0	49	0	0	1·0	0	0	3·7	377	0·60	109	51	...	20
423.	Kusum fruits	15	...	...	42	...	...	...	...	...	...	...	...	...	...	...	...
424.	Langsat	20	...	...	30	...	...	0·5	...	...	...	...	...	...	...	...	...
425.	Lemon, sour	100	...	...	20	...	...	2·4	...	...	...	270	0·16	...	...	...	...
426.	Lemon, sweet	30	...	...	20	...	...	0·7	...	...	...	210	0·11	...	...	...	...
427.	Lemon	70	...	...	10	...	...	2·3	...	...	...	...	...	...	...	...	...
428.	Lichis	10	10	19	35	...	...	0·7	0·5	71	124·9	159	0·30	19	3	...	72
429.	Lime juice	...	...	...	...	...	...	2·2	1·1	50	...	...	...	...	...	...	...
430.	Lime	90	...	...	20	...	...	0·3	...	...	...	...	...	...	...	...	...
431.	Lime, sweet, Musammi	40	...	...	30	...	...	0·7	...	...	...	490	0·17	...	...	...	...
432.	Loquat	30	...	...	20	...	...	1·3	...	...	...	390	0·13	...	...	...	...
433.	Lotus seeds, green and mature	49	...	...	151	...	...	...	...	...	...	...	...	...	...	...	...
434.	Mahua, ripe	45	...	...	22	...	...	1·1	...	...	...	...	...	...	...	...	...
435.	Malta sweet lime	30	...	...	20	...	...	1·0	...	...	...	170	0·51	...	...	...	...
436.	Mango, ripe	10	27	26	20	...	...	0·3	...	...	26·0	205	0·20	17	3	...	65

437.	Mango, Alphonso, Bulsar	35	...	...	13	...	...	1·6	...	...	...	...	...	...	...	...	...
438.	Mango, Alphonso, Ratnagiri	42	...	...	16	...	...	1·6	...	...	...	...	...	...	...	...	...
439.	Mango, Ankola	10	...	...	20	...	...	0·5	...	...	...	...	...	...	...	...	...
440.	Mango, Banarsi aam	10	...	...	30	...	...	1·0	...	...	...	...	...	...	...	...	...
441.	Mango, Banganpalle	20	22	6	20	...	...	0·4	0	0	3·1	218	0·08	12	14	...	59
442.	Mango, Bijoo	12	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...
443.	Mango, Bombai	14	...	...	19	...	...	...	...	...	...	...	...	...	...	...	...
444.	Mango, Chausa aam	10	...	...	20	...	...	1·1	...	...	...	...	...	...	...	...	...
445.	Mango, Dasheri aam	10	...	...	20	...	...	1·0	...	...	...	...	...	...	...	...	...
446.	Mango, Fazli aam	20	...	...	20	...	...	1·3	...	...	...	...	...	...	...	...	...
447.	Mango, Gola aam	10	...	...	20	...	...	1·1	...	...	...	...	...	...	...	...	...
448.	Mango, Gulabkhas (Bhagalpur)	16	...	...	14	...	...	...	...	...	...	...	...	...	...	...	...
449.	Mango, Jardalu (Bhagalpur)	10	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...
450.	Mango, Langda aam	10	...	...	20	...	...	0·9	...	...	...	...	...	...	...	...	...
451.	Mango, Malda aam	10	...	...	20	...	...	0·9	...	...	...	...	...	...	...	...	...
452.	Mango, Mithua (Patna)	10	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...
453.	Mango, Mankur, Goa	23	...	...	10	...	...	0·9	...	...	...	...	...	...	...	...	...
454.	Mango, Nilam aam	10	...	...	20	...	...	1·5	...	...	...	210	0·03	...	...	...	...
455.	Mango, Perreira, Bulsar	24	...	...	17	...	...	0·9	...	...	...	...	...	...	...	...	...
456.	Mango, Perreira, Ratnagiri	31	...	...	15	...	...	1·2	...	...	...	...	...	...	...	...	...
457.	Mango, Rusbahar aam	10	...	...	10	...	...	1·7	...	...	...	...	...	...	...	...	...
458.	Mango, Safeda aam	10	...	...	20	...	...	1·1	...	...	...	...	...	...	...	...	...
459.	Mango, Saharanpuri	10	...	...	20	...	...	1·1	...	...	...	...	...	...	...	...	...
460.	Mango, Sindhuri aam	10	...	...	10	...	...	3·2	...	...	...	140	0·23	...	...	...	...
461.	Mango, Sipia aam	11	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
462.	Mango, Summer bhaisht	10	...	...	20	...	...	1·5	...	...	...	...	...	...	...	...	...
463.	Mango, Tamuri aam	10	...	...	20	...	...	2·0	...	...	...	...	...	...	...	...	...
464.	Mango, Tota aam	10	...	...	10	...	...	2·7	...	...	...	140	0·07	...	...	...	...
465.	Mango powder	180	...	...	160	...	...	45·2	...	...	...	...	...	...	...	...	...
466.	Mango seed kernel, Neelam	50	...	...	110	...	...	0·7	...	...	...	...	...	...	...	...	...

II. Minerals

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus			Iron			Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution	
					Total (a) mg.	Phytin (b) mg.	(b) as per cent of (a)	Total (c) mg.	Ionisable (d) mg.	(d) as per cent of (c)						Acid	Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
467.	Mango seed kernel, Totapuri or Bangalore	30	...	...	90	...	...	0·8	...	...	...	...	...	...	...	...	...
468.	Mangosteen	10	...	...	20	...	...	0·2	...	...	...	...	...	...	...	...	...
469.	Mata sura (whole fruit)	138	...	...	28	...	...	...	...	...	...	...	...	...	...	...	...
470.	Mata sura (skin and pulp)	16	...	...	22	...	...	...	...	...	...	...	...	...	...	...	...
471.	Melon, water	11	13	11	12	...	...	7·9	5·4	68	27·3	160	0·05	42	21	...	29
472.	Melon, white	65	31	2	20	...	...	1·3	...	...	104·6	341	0·03	32	80	...	134
473.	Melon, white, Sherda	15	...	...	10	...	...	2·0	...	...	...	...	...	...	...	...	...
474.	Melon, white, Phutt	15	...	...	10	...	...	1·0	...	...	...	...	...	...	...	...	...
475.	Melon, white, seeds	660	...	...	1,040	...	...	17·3	...	...	...	...	...	...	...	...	...
476.	Mulberry, English black	60	...	...	20	...	...	2·6	...	...	...	...	...	...	...	...	...
477.	Mulberry fruit, MR 2	80	...	...	40	...	..	1·9	...	...	...	...	...	...	...	...	...
478.	Mulchhari	212	...	...	30	...	...	...	...	...	...	...	...	...	...	...	...
479.	Neem fruit	25	...	...	41	...	...	...	...	...	...	...	...	...	...	...	...
480.	Nisorha	40	...	...	60	...	...	...	...	...	...	...	...	...	...	...	...
481.	Orange, loose-jacketed	50	9	10	20	1	5	0·1	...	...	4·5	93	0·58	7	5	...	40
482.	Orange, Jaffa	20	...	...	20	...	...	0·2	...	...	...	...	...	...	...	...	...
483.	Orange, Nagpur santra	20	...	...	20	...	...	0·5	...	...	...	240	0·15	...	...	...	...
484.	Orange, Nahan santra	20	...	...	20	...	...	0·6	...	...	...	240	0·13	...	...	...	...
485.	Orange, Washington naval	20	...	...	20	...	...	0·2	...	...	...	...	...	...	...	...	...

486. Orange juice	5	...	...	9	...	...	0·7	...	...	...	...	...	...	...	...	...
487. Palmyra fruit, tender	10	...	...	20	...	...	0·5	...	...	...	...	...	...	...	...	...
488. Palmyra fruit, ripe (mesocarp)	9	...	...	33	...	...	...	...	...	...	...	...	...	...	...	...
489. Paniala	43	...	...	25	...	...	...	...	...	...	...	...	...	...	...	...
490. Pannirkoyya	10	4	0	30	...	...	0·5	...	...	34·1	50	0·01	13	4	...	8
491. Papa	24	...	...	91	...	...	...	...	...	...	...	...	...	...	...	...
492. Papayya, ripe	17	11	1	13	4	31	0·5	...	...	6·0	69	0·20	13	11	...	19
493. Papayya, unripe fruit	21	...	...	15	...	...	0·9	...	...	...	...	...	...	...	...	...
494. Passion fruit	10	...	...	60	...	...	2·0	0·3	15	...	...	...	...	...	...	...
495. Passion fruit (giant)	10	...	...	10	...	...	0·4	...	...	...	...	...	...	...	...	...
496. Passion fruit juice (yellow)	10	...	...	30	...	...	0·7	...	...	...	...	...	...	...	...	...
497. Peaches	15	21	1	41	1	2	2·4	0·3	13	2·0	453	0·06	26	0	...	104
498. Pears, "Bagugosha"	20	...	...	20	...	...	1·5	...	...	...	...	...	...	...	...	...
499. Pears, Chinese	10	...	...	10	...	...	0·4	...	...	...	...	...	...	...	...	...
500. Pears, country	6	7	4	10	1	10	1·0	0·8	80	6·1	96	0·40	14	1	...	30
501. Pears, 'Desi pear"	20	...	...	20	...	...	3·6	...	...	...	...	...	...	...	...	...
502. Pears, English	10	...	...	20	...	...	0·8	...	...	...	...	...	...	...	...	...
503. Pears, "Kashmiri nakh"	20	...	...	20	...	...	1·0	...	...	...	...	...	...	...	...	...
504. Pears, avocado	10	...	...	80	...	...	0·7	...	...	...	...	...	...	...	...	...
505. Pears, Kieffer	10	...	...	10	...	...	0·4	...	...	...	...	...	...	...	...	...
506. Perar	33	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...
507. Persimmon	15	...	...	10	...	...	0·3	...	...	...	...	...	...	...	...	...
508. Phalsa	129	72	200	39	13	33	3·1	0	0	4·4	351	0·12	13	86	...	149
509. Pineapple	20	20	5	9	2	22	1·2	0·7	58	34·7	37	0·36	20	13	...	28
510. Pipal tree figs	289	...	...	89	...	...	...	...	...	...	...	...	...	...	...	...
511. Piyal	78	...	...	28	...	...	...	...	...	...	...	...	...	...	...	...
512. Plums, Gaviota	10	...	...	10	...	...	0·6	...	...	...	...	...	...	...	...	...
513. Plums, Hale	10	...	...	10	...	...	0·5	...	...	...	...	...	...	...	...	...
514. Plums, red, Nilgiris	15	147	1	25	0	0	0·8	0·3	38	0·8	352	0·23	33	0	...	175
515. Plums, red, Punjab	10	...	...	20	...	...	1·4	...	...	...	190	0·05	...	...	...	...
516. Plums, Rubio	20	...	...	10	...	...	0·6	...	...	...	...	...	...	...	...	...
517. Plums, Satsuma	10	...	...	10	...	...	0·3	...	...	...	...	...	...	...	...	...
518. Plums, Shiro	10	...	...	10	...	...	0·3	...	...	...	...	...	...	...	...	...
519. Plums, small, alucha	10	...	...	10	...	...	1·7	...	..	...	200	0·10	...	...	...	...
520. Plums, yellow green, Punjab	10	...	...	20	...	...	1·0	...	...	...	270	0·05	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus			Iron			Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution	
					Total (a) mg.	Phytin (b) mg.	(b) as per cent of (a)	Total (c) mg.	Ionisable (d) mg.	(d) as per cent of (c)						Acid	Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
521.	Pomegranate	10	12	14	70	11	16	0·3	0	0	0·9	138	0·17	12	2	8	...
522.	Pomegranate, Punjab, plain	10	...	...	20	...	...	0·8	...	...	...	180	0·14	...	...	...	...
523.	Pomegranate, Punjab, Anar lal	10	...	...	30	...	...	1·2	...	...	...	80	0·21	...	...	...	...
524.	Pomeloe	30	...	...	30	...	...	0·3	0·1	33	...	...	...	...	...	...	...
525.	Prunes	80	...	...	40	...	...	4·8	...	...	...	...	...	...	...	...	...
526.	Quince	10	...	...	20	...	...	0·4	...	...	...	...	...	...	...	...	...
527.	Radish fruit	80	...	...	100	...	...	2·8	...	...	...	...	...	...	...	...	...
528.	Raisins, preserved	100	20	...	80	...	...	4·0	...	...	...	...	...	...	...	...	...
529.	Raisins, cheap variety	80	...	...	80	...	...	10·0	...	...	...	...	...	...	...	...	...
530.	Raisins, costly variety	80	...	...	80	...	...	9·2	...	...	...	...	...	...	...	...	...
531.	Raisins, big size with seeds	70	...	...	80	...	...	7·1	...	...	...	...	...	...	...	...	...
532.	Raspberry	10	...	...	110	...	...	2·3	...	...	...	...	...	...	...	...	...
533.	Rayan	83	...	...	17	...	...	0·9	...	...	...	...	...	...	...	...	...
534.	Sakkarteti	18	...	...	2	...	...	0·3	...	...	...	...	...	...	...	...	...
535.	Sapota, cricket ball, Nilgiris	30	...	...	10	...	...	0·5	...	...	...	...	...	...	...	...	...
536.	Sapota, Bombay chiku	30	...	...	72	...	...	6·7	...	...	...	...	...	...	...	...	...
537.	Sapota, Hyderabad chiku	31	26	0	14	0	0	0·1	0	0	5·9	269	0·36	17	26	...	79
538.	Sapota, Punjab cheekoo	20	...	...	10	...	...	0·6	...	...	...	...	...	...	...	...	...

539.	"Seethapazham" Nilgiris	20	...	...	40	...	...	1·0	...	...	...	...	...	...	...	...	...
540.	Sharifa, Punjab	10	...	...	60	...	...	2·9	...	...	...	340	0·18	...	...	...	...
541.	Sithaphal, Hyderabad"	398	48	30	40	...	...	0·3	...	...	...	...	0·85	...	37	...	...
542.	Sirka	270	...	...	94	...	...	...	...	...	...	...	...	...	...	...	...
543.	Star apple	5	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...
544.	Strawberry	30	...	...	30	...	...	1·8	...	...	...	...	...	...	...	...	...
545.	Tamarind, pulp	170	...	...	110	...	...	0·9	...	...	...	...	...	...	...	...	...
546.	Tar ka koa	5	...	...	16	...	...	...	...	...	...	...	...	...	...	...	...
547.	"Thavittu pazham"	40	30	42	15	11	73	0·9	0·1	7	7·7	106	154	30	19	...	38
548.	Tirkol ka phal	34	...	...	46	...	...	...	...	...	...	...	...	...	...	...	...
549.	Tomato, ripe	48	12	4	20	...	...	0·4	0·2	50	12·9	146	140	11	6	...	55
550.	Tomatillo	7	23	0	40	7	18	1·4	1·0	71	0·4	243	0·09	27	14	...	38
551.	Tree tomato	12	34	1	46	6	13	1·0	0·6	60	1·7	539	0·17	37	10	...	90
552.	Tuki	60	...	...	20	...	...	0·5	...	...	...	...	...	...	...	...	...
553.	Velwa ka topi	237	...	...	97	...	...	...	...	...	...	...	...	...	...	...	...
554.	"Vikkipazham"	37	37	11	26	5	19	3·1	0	0	3·9	435	0·08	68	85	...	66
555.	Wood apple	130	...	272	110	...	...	0·6	...	...	...	...	0·81	...	...	...	...

FISHES

556.	Air	380	...	...	180	...	...	0·7	0·3	43	...	...	0·06	...	...	...	...
557.	Amlet	260	...	...	220	...	...	1·1	...	...	...	...	0·14	...	...	...	...
558.	Anchovy	143	...	...	174	...	...	1·5	...	...	...	...	...	...	...	...	...
559.	Bacha	520	...	...	180	...	...	0·7	0·4	56	...	...	0·11	...	...	...	...
560.	Bam	330	...	...	240	...	...	0·8	0·4	50	...	...	0·06	...	...	...	...
561.	Baspata machli	175	...	...	225	...	...	...	...	...	...	...	...	...	...	...	...
562.	Bata (small varieties)	790	...	...	200	...	...	1·1	...	...	...	...	0·17	...	...	...	...
563.	Bele	370	...	...	330	...	...	1·0	<0·1	3	...	...	...	...	...	...	...
564.	Bhangar	182	...	...	190	...	...	1·2	0·7	58	...	...	...	...	...	...	...
565.	Bhangar bata	580	...	...	310	...	...	1·1	0·2	18	...	...	...	...	...	...	...
566.	Bhetka	530	...	...	400	...	...	102·0	0·4	<1	66·0	173	0·11	...	...	...	...
567.	Bhole	550	...	...	580	...	...	0·4	0·2	50	...	...	0·05	...	...	...	...
568.	Big-jawed jumper	214	...	...	306	...	...	3·4	...	...	...	...	...	...	...	...	...
569.	Black pomfret	286	...	...	306	...	...	2·3	...	...	...	...	...	...	...	...	...
570.	Blue mussel	1,134	...	...	286	...	...	8·0	...	...	...	...	...	...	...	...	...
571.	Boal	160	...	...	490	...	...	62·0	0·4	1	...	...	0·08	...	...	...	...
572.	Bugda chinghri	290	...	...	420	...	...	1·4	0·7	50	...	...	...	...	...	...	...
573.	Cat fish	10	...	...	230	...	...	...	...	...	...	...	...	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus			Iron			Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution	
					Total (a) mg.	Phytin (b) mg.	(b) as per cent of (a)	Total (c) mg.	Ionisable (d) mg.	(d) as per cent of (c)						Acid	Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
574.	Chela	590	...	...	340	...	...	2·0	...	...	...	...	0·51	...	...	...	...
575.	Chital	180	...	...	250	...	...	3·0	...	...	34·0	119	0·17	...	...	...	...
576.	Cockup	429	...	...	305	...	...	4·1	...	...	...	...	...	...	...	...	...
577.	Crab (muscle)	1,370	...	...	150	...	...	21·2	...	...	...	...	...	...	...	...	...
578.	Crab (small)	1,606	...	...	253	...	...	...	...	...	...	...	...	...	...	...	...
579.	Dhain	360	...	...	240	...	...	1·0	0·6	60	...	...	0·08	...	...	...	...
580.	Fesha	440	...	...	340	...	...	115·0	0·1	...	...	...	...	...	...	...	...
581.	Fish flour	111	66	...	413	...	...	21·8	7·6	32	122·8	370	5·60	771	147	...	...
582.	Fish meal (Arius)	52	39	...	330	...	...	7·9	5·1	65	75·0	213	0·50	521	145	...	...
583.	Fish meal (Caranx)	130	68	...	351	...	...	47·6	11·4	24	75·8	283	...	867	44	...	...
584.	Fish meal (Shark)	64	63	...	365	...	...	14·9	6·5	44	116·7	418	12·50	825	150	...	...
585.	Folui	590	...	...	450	...	...	1·7	0·5	29	...	...	...	...	...	...	...
586.	Ghol	90	...	...	150	...	...	2·1	...	...	...	...	...	...	...	...	...
587.	Gima shak	200	...	...	...	...	...	0·1	...	...	...	...	...	...	...	...	...
588.	Goggler	437	...	...	349	...	...	8·2	...	...	...	...	...	...	...	...	...
589.	Gurjowli	380	...	...	300	...	...	1·3	...	...	...	...	0·10	...	...	...	...
590.	Hilsa	180	...	...	280	...	...	2·1	0·6	29	52·0	183	0·10	...	...	...	...
591.	Herring, ox-eyed	429	...	...	131	...	...	6·3	...	...	...	...	...	...	...	...	...
592.	Horse mackerel	357	...	...	262	...	...	2·0	...	...	..	...	...	...	...	...	...
593.	Indian herring	429	...	...	305	...	...	9·3	...	...	...	...	...	...	...	...	...
594.	Indian whiting	71	...	...	262	...	...	2·2	...	...	...	...	...	...	...	...	...
595.	Jew fish, Pallikora	214	...	...	262	...	...	4·8	...	...	...	...	...	...	...	...	...
596.	Jew fish, Kora	286	...	...	305	...	...	4·4	...	...	...	...	...	...	...	...	...
597.	Kajura	50	...	...	890	...	...	1·2	...	...	...	...	...	...	...	...	...
598.	Kalabasu	320	...	...	380	...	...	83·0	0·3	< 1	...	...	...	...	...	...	...

599.	Karch kala	...	...	...	...	...	...	4·0	...	...	...	...	...	...	...	...	...
600.	Katla	510	...	...	210	...	...	76·0	0·6	1	50	151	0·12	...	...	...	...
601.	Katla (from Jheel)	550	...	...	260	...	...	0·9	0·5	55	...	...	...	...	...	...	...
602.	Kharsala	410	...	...	160	...	...	0·6	0·4	66	...	...	0·13	...	...	...	...
603.	Kholshe	460	...	...	360	...	...	0·9	...	...	...	...	0·10	...	...	...	...
604.	Khoyra	590	...	...	220	...	...	67·0	0·2	< 1	...	...	...	...	...	...	...
605.	Koi	410	...	...	390	...	...	1·4	0·7	50	64·0	195	0·16	...	...	...	...
606.	Koccha machli (Andha sanp)	185	...	...	119	...	...	...	...	...	...	...	...	...	...	...	...
607.	Kuja vetki	460	...	...	230	...	...	0·8	0·3	38	...	...	...	...	...	...	...
608.	Lady vendi	260	...	...	200	...	...	0·7	...	...	...	...	0·23	...	...	...	...
609.	Lata	610	...	...	530	...	...	1·3	0·7	54	...	...	...	...	...	...	...
610.	Lobster	16	...	...	279	...	...	...	...	...	...	...	...	...	...	...	...
611.	Mackerel	429	...	...	305	...	...	4·5	...	...	...	...	...	...	...	...	...
612.	Magur	210	...	...	290	...	...	74·0	0·8	1	58·0	147	...	...	...	...	...
613.	Mahasole	130	...	...	280	...	...	3·8	...	...	...	...	0·12	...	...	...	...
614.	Mangalore, big fish	20	...	...	190	...	...	0·9	...	...	...	...	...	...	...	...	...
615.	Mangalore, small fish	60	...	...	410	...	...	2·3	...	...	...	...	...	...	...	...	...
616.	Mowrala	550	...	...	350	...	...	0·9	0·4	44	...	...	0·07	...	...	...	...
617.	Mrigal	350	...	...	280	...	...	1·1	0·4	36	...	...	0·12	...	...	...	...
618.	Mullet	357	...	...	175	...	...	4·4	...	...	...	...	...	...	...	...	...
619.	Oil sardine	357	...	...	349	...	...	6·1	...	...	...	...	...	...	...	...	...
620.	Pabda	310	...	...	210	...	...	1·3	0·4	31	...	...	0·09	...	...	...	...
621.	Pakal	130	...	...	110	...	...	0·4	0·1	25	...	...	0·06	...	...	...	...
622.	Palmplate	240	...	...	140	...	...	1·6	...	...	...	...	0·12	...	...	...	...
623.	Pangas	180	...	...	130	...	...	0·5	0·5	100	...	...	0·08	...	...	...	...
624.	Parsey	1,050	...	...	700	...	...	2·1	0·5	24	...	...	...	...	...	...	...
625.	Parsey (big varieties)	650	...	...	280	...	...	3·3	...	...	...	..	0·14	...	...	...	...
626.	Pomfrets	200	...	...	290	...	...	0·9	...	...	...	...	...	...	...	...	...
627.	Pooin shak	200	...	...	...	...	...	< 0·1	...	...	...	...	...	...	...	...	...
628.	Prawn (muscle)	90	...	...	240	...	...	0·8	...	...	66·0	262	...	...	...	...	...
629.	Prawn (Andail gorla)	38	...	...	249	...	...	...	...	...	...	...	...	...	...	...	...
630.	Prawn (Karuana gorla)	741	...	...	258	...	...	...	...	...	...	...	...	...	...	...	...
631.	Sea prawns, Chemmin	175	...	...	572	...	...	4·7	...	...	...	...	...	...	...	...	...
632.	Sea prawns, Kozhi chemmin	572	...	...	87	...	...	9·4	...	...	...	...	...	...	...	...	...
633.	Sea prawns, chemmin	175	...	...	536	...	...	6·9	...	...	...	...	...	...	...	...	...
34.	Sea prawns, Vala chemmin	214	...	...	262	...	...	1·8	...	...	...	...	...	...	...	...	...

II. Minerals *(Contd.)*

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
635.	Puti	110	...	...	96	...	...	1·0	0·7	70	...	...	...	...	...	...	...
636.	Rangoli	70	...	...	110	...	...	1·9	...	...	...	...	...	...	...	...	...
637.	Ray	214	...	...	262	...	...	5·3	...	...	...	...	...	...	...	...	...
638.	Ribbon fish	214	...	...	218	...	...	13·9	...	...	...	...	...	...	...	...	...
639.	Rohu	680	13	5	150	18	12	85·0	0·9	1	101·0	288	0·13	103	3	...	306
640.	Rohu (from Jheel)	620	...	...	200	...	...	1·1	0·6	54	...	...	...	...	...	...	...
641.	Rohu fish (Roes)	4	...	...	223	...	...	...	...	...	...	...	...	...	...	...	...
642.	Royna	120	...	...	80	...	...	0·4	<0·1	11	...	...	0·05	...	...	...	...
643.	Sakchi	5	...	...	155	...	...	...	...	...	...	...	...	...	...	...	...
644.	Sardines	90	...	...	360	...	...	2·5	...	...	...	...	...	...	...	...	...
645.	Sardines	1,072	...	...	218	...	...	4·9	...	...	...	...	...	...	...	...	...
646.	Sarputi	220	...	...	120	...	...	0·5	0·3	60	...	...	0·08	...	...	...	...
647.	Shark	357	...	...	262	...	...	1·4	...	...	...	...	...	...	...	...	...
648.	Shark	143	...	...	175	...	...	1·3	...	...	...	...	...	...	...	...	...
649.	Seer, Ayakora	71	...	...	572	...	...	5·4	...	...	...	...	...	...	...	...	...
650.	Silver belly (Nalla mullan)	1,072	...	...	654	...	...	1·7	...	...	...	...	...	...	...	...	...
651.	Silver belly (Chakra mullan)	715	...	...	741	...	...	2·2	...	...	...	...	...	...	...	...	...
652.	Singhada	100	...	...	150	...	...	1·8	...	...	...	...	...	...	...	...	...
653.	Singhi	670	...	...	650	...	...	2·3	1·0	43	53·0	223	0·15	...	...	...	...
654.	Sole	140	...	...	95	...	...	54·0	0·6	1	...	...	0·11	...	...	...	...
655.	Sole (Westcoast, Madras)	1,072	...	...	524	...	...	10·1	...	...	...	...	...	...	...	...	...
656.	Sooga machli	23	...	...	199	...	...	...	...	...	...	...	...	...	...	...	...

657. Surmal	90	...	...	160	...	...	2·0	...	...	...	...	...	...	...	...	...
658. Tengra	270	...	...	170	...	...	2·0	0·3	15	...	...	...	...	...	...	...
659. Thread fin	286	...	...	262	...	...	7·2	...	...	...	...	...	...	...	...	...
660. Tunny	429	...	...	349	...	...	6·8	...	...	...	...	...	...	...	...	...
661. Vajra	40	...	...	380	...	...	0·7	...	...	...	...	...	...	...	...	...
662. White bait	643	...	...	437	...	...	3·9	...	...	...	...	...	...	...	...	...
663. White pomfret	178	...	...	262	...	...	12·2	...	...	...	...	...	...	...	...	...
SUN-DRIED FISHES																
665. Bhangar	6,235	...	...	207	...	...	9·3	...	...	...	...	...	...	...	...	...
666. Bhetki	939	...	...	347	...	...	15·0	...	...	...	...	...	...	...	...	...
667. Chelwa	3,590	...	...	2,342	...	...	...	...	...	...	...	...	...	...	...	...
668. Bombay, duck	1,389	...	...	240	...	...	19·1	...	...	...	...	...	...	...	...	...
669. Chiki	1,008	...	...	513	...	...	89·2	...	...	...	...	1·70	...	...	...	...
670. Chingni (small)	3,539	...	...	354	...	...	27·9	...	...	...	...	...	...	...	...	...
671. Chingri-Rangi chingri	3,847	...	...	828	...	...	46·9	...	...	...	...	1·40	...	...	...	...
676. Fesha	1,676	...	...	478	...	...	18·0	...	...	...	...	...	...	...	...	...
677. Hilsa (wet cured with salt)	5,427	...	...	437	...	...	11·6	...	...	...	...	...	...	...	...	...
678. Joyali magur	1,804	...	...	893	...	...	22·1	...	...	...	...	0·67	...	...	...	...
680. Laukhola	515	...	...	293	...	...	17·8	...	...	...	...	...	...	...	...	...
681. Modal Machh	549	...	...	448	...	...	22·0	...	...	...	...	0·90	...	...	...	...
682. Muti	7,240	...	...	834	...	...	1·0	...	...	...	...	...	...	...	...	...
683. Parsey	2,231	...	...	396	...	...	17·4	...	...	...	...	...	...	...	...	...
684. Pata machh	988	...	...	430	...	...	51·7	...	...	...	...	...	...	...	...	...
686. Rupapatar	890	...	...	413	...	...	43·7	...	...	...	...	1·10	...	...	...	...
687. Shankha chur	780	...	...	501	...	...	11·9	...	...	...	...	0·76	...	...	...	...
688. Sukhua machli	4,332	...	...	2,520	...	...	...	...	...	...	...	...	...	...	...	...
689 Sukhua machli	5,876	...	...	3,550	...	...	...	...	...	...	...	...	...	...	...	...
690. Sukhua machli	4,670	...	...	2,678	...	...	...	...	...	...	...	...	...	...	...	...
691. Taltapra	907	...	...	413	...	...	88·7	...	...	...	...	0·82	...	...	...	...
692. Tangra	843	...	...	400	...	...	100·8	...	...	...	...	0·58	...	...	...	...
693. Tapra	771	...	...	552	...	...	19·3	...	...	...	...	0·71	...	...	...	...
694. Tapsi	1,597	...	...	595	...	...	41·2	...	...	...	...	1·20	...	...	...	...
OTHER FLESH FOODS																
695. Beef muscle	10	...	25	190	...	...	0·8	0·7	88	52·0	214	...	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
696.	Beef meal	68	186	...	324	90	28	18·8	...	...	...	...	...	...	...	...	...
697.	Bhat jhinga	1,201	...	...	300	...	...	...	...	...	...	...	...	...	...	...	...
698.	Boordood	48	...	...	457	...	...	...	...	...	...	...	...	...	...	...	...
699.	Buffalo (shoulder blades)	3	...	...	189	...	...	...	...	...	...	...	...	...	...	...	...
700.	Dhauns	10	...	...	176	...	...	...	...	...	...	...	...	...	...	...	...
701.	Duck	4	...	...	235	...	...	...	...	...	...	...	...	...	...	...	...
702.	Duck's egg yolk	...	...	...	...	...	...	...	...	...	55·0	396	...	...	...	...	...
702a.	Duck's egg white	...	...	...	...	...	...	...	...	...	28·0	13	...	...	...	...	...
703.	Egg, duck	70	...	...	260	...	...	3·0	...	...	...	...	...	...	...	...	...
704.	Egg, hen	60	...	...	220	...	...	2·1	0	...	...	...	...	...	...	...	...
705.	Egg yolk, hen's	...	...	...	...	...	...	4·1	2·2	54	54·0	113	...	...	...	...	...
706.	Egg white, hen's	...	...	...	...	...	...	...	...	...	20·0	25	...	...	...	...	...
707.	Field rat's meat	30	...	...	242	...	...	...	...	...	...	...	...	...	...	...	...
708.	Finch	90	...	...	347	...	...	...	...	...	...	...	...	...	...	...	...
709.	Fowl	25	...	...	245	...	...	...	...	...	...	...	...	...	...	...	...
710.	Fresh water mussel	592	...	...	406	...	...	...	...	...	...	...	...	...	...	...	...
711.	Goat meat muscle	12	...	...	193	...	...	...	...	...	...	...	...	...	...	...	...
712.	Grey quail	22	...	...	282	...	...	...	...	...	...	...	...	...	...	...	...
713.	Liver, goat	17	...	...	279	...	...	...	...	...	...	...	...	...	...	...	...
714.	Liver, sheep	10	...	...	380	...	...	6·3	...	...	73·0	166	...	...	...	...	...
715.	Mutton (muscle)	150	...	..	150	...	...	2·5	2·0	80	33·0	270	...	...	...	...	...
716.	Meat of narrow snouted crocodile	13	...	...	162	...	...	...	...	...	...	...	...	...	...	...	...
717.	Pigeon	12	...	...	290	...	...	1·8	...	...	...	...	...	...	...	...	...

718.	Pork (muscle)	30	...	...	200	...	...	2·3	...	...	...	...	...	...	...	...	...
719.	Red ants with eggs	104	...	...	107	...	...	...	...	...	...	...	...	...	...	...	...
720.	Ruff and Reeve	3	...	...	321	...	...	...	...	...	...	...	...	...	...	...	...
721.	Shrimp, small, dried	4,384	...	...	1,160	...	...	...	...	...	...	...	...	...	...	...	...
722.	Snail, small	1,321	...	...	147	...	...	...	...	...	...	...	...	...	...	...	...
723.	Snail, big	870	...	...	116	...	...	...	...	...	...	...	...	...	...	...	...
724.	Tortoise muscle	...	...	...	...	...	...	...	...	...	29·0	130	...	...	...	...	...
725.	Turtle's meat	43	...	...	196	...	...	...	...	...	...	...	...	...	...	...	...
726.	Turtle's meat	6	...	...	142	...	...	...	...	...	...	...	...	...	...	...	...
727.	Turtle's meat	4	...	...	150	...	...	...	...	...	...	...	...	...	...	...	...
728.	Turtle's meat	10	...	...	175	...	...	...	...	...	...	...	...	...	...	...	...
729.	Turtle's meat	7	...	...	149	...	...	...	...	...	...	...	...	...	...	...	...
730.	Turtle's egg	93	...	...	299	...	...	...	...	...	...	...	...	...	...	...	...
731.	Venison	3	...	...	233	...	...	...	...	...	...	...	...	...	...	...	...
732.	Wood sand piper	8	...	...	300	...	...	...	...	...	...	...	...				

MILK AND MILK PRODUCTS

739.	Milk, cow's	149	...	...	96	...	...	0·2	...	...	16·0	140	...	...	...	...	...
740.	Milk, buffalo's	210	...	...	130	...	...	0·2	...	...	19·0	90	...	...	...	...	...
741.	Milk, goat's	130	...	..	...	...	...	...	...	...	11·0	110	...	...	...	...	...
742.	Milk, human	34	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...
743.	Milk, ass's	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
744.	Curds	149	...	...	93	...	...	0·3	...	...	32·0	130	...	...	...	...	...
745.	Butter milk	30	...	...	30	...	...	0·8	...	...	...	...	...	...	...	...	...
746.	Skimmed milk, liquid	120	...	...	90	...	...	0·2	...	...	...	...	...	...	...	...	...
747.	Channa (cow's milk)	208	...	...	138	...	...	...	...	..	...	...	...	...	...	...	...
748.	Channa (buffalo milk)	480	...	...	277	...	...	...	...	...	...	...	...	...	...	...	...
749.	Cheese	790	...	...	520	...	...	2·1	...	...	...	...	...	...	...	...	...
750.	Kheer	388	...	...	237	...	...	...	...	...	...	...	...	...	...	...	...
751.	"Koa" (whole buffalo milk)	650	...	...	420	...	...	5·8	...	...	...	...	...	...	...	...	...
752.	"Koa" (skimmed buffalo milk)	990	...	...	650	...	...	2·7	...	...	...	...	...	...	...	...	...
753.	"Khoa" (whole cow's milk)	956	...	...	613	...	...	...	...	...	...	...	...	...	...	...	...
754.	Skimmed milk powder (cow's milk)	1,370	...	...	1,000	...	...	1·4	...	...	...	...	...	...	...	...	...
755.	Whole milk powder (cow's milk)	950	...	...	730	...	...	0·6	...	...	...	...	...	...	...	...	...

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	Sodium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	MISCELLANEOUS FOODSTUFFS																
756.	Arecanut	50	...	...	130	...	...	1·5	...	...	...	...	...	...	...	...	...
757.	Arrowroot flour, West Indian	10	...	...	20	0	0	1·0	...	...	3·0	20	...	...	...	...	...
758.	Bajjar bhang	83	405	...	424	...	...	20·0	...	...	...	...	...	...	29	...	...
759.	Bali	9	...	...	170	...	...	...	...	...	...	...	...	...	...	...	...
760.	Banti	14	...	...	121	...	...	5·0	...	...	...	...	...	...	...	...	...
761.	Barai dal	109	...	...	458	...	...	...	...	...	...	...	...	...	...	...	...
762.	Betel leaves	230	...	...	40	...	...	7·0	3·5	50	...	...	...	...	...	...	...
763.	Bhangari	44	234	124	369	...	...	17·0	...	...	...	...	...	...	4	...	...
764.	Bhangri ka atta	61	182	66	338	39	12	30·5	0·9	3	10·8	413	0·51	79	2	...	14
765.	Bhilisa of Elo	90	...	...	356	...	...	14·0	...	...	...	...	...	...	118	...	...
766.	Bhoose ka atta	109	150	0	325	121	37	30·2	1·8	6	13·8	546	0·51	77	76	...	36
767.	Bhorra chhattoo	4	...	...	103	...	...	...	...	...	...	...	...	...	...	...	...
769.	Bread, white	11	...	...	...	...	...	1·1	...	...	...	...	...	...	...	...	...
770.	Bread, brown	18	...	...	...	...	...	2·2	...	...	...	...	...	...	...	...	...
771.	Bulgar wheat (processed)	37	144	7	298	198	67	4·9	2·8	57	4·5	260	0·56	143	22	21	...
772.	Cane sugar (home made)	28	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...
773.	Cane sugar (commercial)	12	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
774.	Cereal grain "Kathu"	40	...	...	340	...	...	16·6	...	...	...	...	...	...	...	...	...
775.	Cheno	19	...	...	76	...	...	12·8	...	...	...	...	...	...	...	...	...

776. Cholai or seel	160	…	…	550	…	…	4·5	…	…	…	…	…	…	…	…	…
777. Chookri-ka-atta	1,047	216	1,494	173	8	5	39·7	0·7	2	15·8	332	0·34	84	60	…	599
778. Chookri-ka-patta	2,871	372	6,223	41	0	0	41·3	0·8	2	15·8	469	0·46	13	67	…	1,599
779. Chhota karhani chhattoo	7	…	…	155	…	…	…	…	…	…	…	…	…	…	…	…
780. Chukary	4,626	…	…	15	…	…	14·7	…	…	…	…	…	…	102	…	…
781. Coconut, tender	10	…	…	30	…	…	0·9	…	…	…	…	…	…	…	…	…
782. Coconut water (from 5 month old nuts)	30	…	…	< 10	…	…	0·2	…	…	…	…	…	…	…	…	…
783. Coconut water (from 6 month old nuts)	30	…	…	10	…	…	0·1	…	…	…	…	…	…	…	…	…
784. Coconut water (from 8 month old nuts)	20	…	…	< 10	…	…	0·1	…	…	…	…	…	…	…	…	…
785. Coconut water (from 10 month old nuts)	20	…	…	10	…	…	0·1	…	…	…	…	…	…	…	…	…
786. Coconut water (from 12 month old nuts)	20	…	…	10	…	…	0·1	…	…	…	…	…	…	…	…	…
787. Coconut milk (from 10 month old nuts)	10	…	…	120	…	…	1·8	…	…	…	…	…	…	…	…	…
788. Coconut milk (from 12 month old nuts)	20	…	…	160	…	…	1·4	…	…	…	…	…	…	…	…	…
789. Coconut kernel (from mature nut)	10	…	…	240	…	…	1·7	…	…	…	…	…	…	…	…	…
790. Coconut palm sugar (home made)	36	…	…	17	…	…	…	…	…	…	…	…	…	…	…	…
791. Coconut palm jaggery	1,638	…	…	62	…	…	…	…	…	…	…	…	…	…	…	…
793. Coffee powder	…	…	15	…	…	…	…	…	…	…	…	…	…	…	…	…
794. Cowage-seed flour	188	…	…	211	…	…	…	…	…	…	…	…	…	…	…	…
795. Date palm sugar (home made)	52	…	…	27	…	…	…	…	…	…	…	…	…	…	…	…
796. Date palm jaggery	363	…	…	62	…	…	…	…	…	…	…	…	…	…	…	…
797. Deoiled coconut meal	112	355	…	646	285	44	69·4	6·8	10	72·5	2,003	…	431	374	…	99
798. Dingil chatto	3	…	…	186	…	…	…	…	…	…	…	…	…	…	…	…
799. Elo	43	156	…	358	…	…	9·0	…	…	…	…	…	…	86	…	…
800. Fan-palm jaggery	225	…	…	44	…	…	…	…	…	…	…	…	…	…	…	…
801. Groundnut cake	213	…	…	548	…	…	…	…	…	…	…	…	…	…	…	…
802. Gourd mushroom	3	…	…	56	…	…	…	…	…	…	…	…	…	…	…	…
804. Honey	5	…	…	16	…	…	0·9	…	…	…	…	…	…	…	…	…
805. Jaggery	80	…	…	40	…	…	11·4	1·7	15	…	…	…	…	…	…	…
806. Kalipakku	130	…	…	140	…	…	11·1	…	…	…	…	…	…	…	…	…

II. Minerals (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Calcium, mg.	Magnesium, mg.	Oxalic acid, mg.	Phosphorus: Total (a) mg.	Phosphorus: Phytin (b) mg.	Phosphorus: (b) as per cent of (a)	Iron: Total (c) mg.	Iron: Ionisable (d) mg.	Iron: (d) as per cent of (c)	odium, mg.	Potassium, mg.	Copper, mg.	Sulphur, mg.	Chlorine, mg.	Acid base balance ml. N/10 solution: Acid	Acid base balance ml. N/10 solution: Base
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
809.	Lamtra	47	...	...	358	...	...	4·0	...	...	...	...	...	...	143	...	...
810.	Lotus seeds, dry	36	...	...	294	...	...	2·3	...	...	...	...	...	...	...	...	...
811.	Lotus stem, dry	405	168	422	128	0	0	60·6	93	15	438·0	3,007	1·22	258	444	...	931
812.	"Madapu ginja"	210	...	...	440	...	...	4·5	...	...	...	...	...	...	...	...	...
813.	Mahua flowers	140	...	...	140	...	...	15·0	...	...	...	...	...	...	...	...	...
816.	"Makhana"	20	...	...	90	...	...	1·4	...	...	...	...	...	...	...	...	...
817.	Malted palmyra root	20	...	...	160	...	...	4·2	...	...	...	...	...	...	...	...	...
818.	Mushroom, anthill	4	...	...	174	...	...	...	...	...	...	...	...	...	...	...	...
819.	Neera	Trace	...	...	140	...	...	<0·1	...	...	...	...	...	...	...	...	...
820.	Pachwai (Assam)	12	51	...	100	...	...	4·5	...	...	...	110	...	25	...	...	...
821.	Palmyra palm sugar (home made)	90	...	...	58	...	...	...	...	...	...	...	...	...	...	...	...
822.	"Pappads"	80	...	...	300	...	...	17·2	2·1	12	...	...	...	...	...	...	...
824.	Patra chhattoo (edible mushroom)	3	...	...	44	...	...	...	...	...	...	...	...	...	...	...	...
825.	Perandai	650	...	...	50	...	...	2·1	...	...	...	...	...	...	...	...	...
826.	Phog flowers, dry (Rajasthan)	670	...	2,500	420	...	...	12·7	...	...	...	...	...	342	55	...	...
827.	Phutka chhatto (rugroo)	16	...	...	73	...	...	...	...	...	...	...	...	...	...	...	...
829.	Poppy seeds	1,584	...	...	432	...	...	...	...	...	...	...	...	...	...	...	...
830.	Pumpkin seeds	50	...	...	830	...	...	5·5	...	...	...	...	...	...	...	...	...
831.	Rajkeera seeds	223	351	29	655	...	...	17·6	...	...	...	...	0·63	174	9	...	...
834.	Roasted tamarind seed kernel	121	...	...	237	...	...	...	...	...	...	...	...	...	...	...	...

835.	Saijan ka phool	51	...	...	90	...	...	...	...	...	...	...	...	...	...	...	...
836.	Seeds of roselle	300	...	...	600	...	...	...	...	...	...	...	...	...	...	...	...
837.	Sal ka phal	102	...	...	149	...	...	...	...	...	...	...	...	...	...	...	...
838.	Sank alu	20	5	26	60	31	52	4·8	1·7	36	...	228	0·50	35	169	...	...
839.	Sawak-ka-chawal	10	...	...	90	...	...	5·0	...	...	...	...	...	...	...	...	...
840.	Sago	10	...	...	10	...	...	1·3	...	...	...	...	...	...	...	...	...
841.	Sago palm jaggery	1,252	...	...	372	...	...	...	...	...	...	...	...	...	...	...	...
843.	Singhara, dry	70	...	...	440	...	...	2·4	...	...	...	...	...	...	...	...	...
844.	Straw mushroom	2	...	...	115	...	...	...	...	...	...	...	...	...	...	...	...
845.	Sugar cane	< 10	...	...	20	...	...	0·3	...	...	...	...	...	...	...	...	...
846.	Sugar cane preserves	20	...	...	60	...	...	14·3	...	...	...	...	...	...	...	...	...
847.	Sugar cane juice	10	...	...	10	...	...	1·1	...	...	...	...	...	...	...	...	...
848.	Tangunika chawal	29	...	...	165	...	...	...	...	...	...	...	...	...	...	...	...
849.	Tissourie	250	...	...	438	...	...	...	...	...	...	...	...	...	...	...	...
850.	Toddy, sweet	150	...	...	10	...	...	0.3	...	...	...	...	...	...	...	...	...
851.	Toddy, coconut, sweet	40	...	...	10	...	...	1·0	...	...	...	...	...	...	...	...	...
852.	Toddy, coconut, fermented	10	...	...	10	...	...	1·3	...	...	...	...	...	...	...	...	...
853.	Toddy, fermented (from shop)	< 10	...	...	10	...	...	1·1	...	...	...	...	...	...	...	...	...
854.	Water lily seeds	20	...	...	110	...	...	...	...	...	...	...	...	...	...	...	...
855.	Yeast, dried (food)	160	...	...	2,090	...	...	21.5	...	...	...	...	...	...	...	...	...
856.	Yeast, dried (Brewer's)	440	...	...	1,490	...	...	43·7	...	...	...	...	...	...	...	...	...

TABLE OF FOOD VALUES

III Vitamins

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, µg.	Choline, mg.	Folic acid µg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	CEREALS AND GRAIN PRODUCTS												
1.	Bajra	220	0·33	0·16	3·2	0	...	...	...	...	...	...	...
2.	Barley	17	0·47	0·20	5·4	0	...	...	...	...	...	...	...
3.	Barley, wild	439	0·18	0·13	7·4	0	...	...	...	...	...	...	...
4.	Cholam	79	0·37	0·28	1·8	0	...	...	...	...	...	...	...
5.	Italian millet	54	0·59	0·08	0·7	0	...	...	...	...	...	...	...
6.	"Kootu"	0	0·90	0·34	4·4	0	...	...	...	...	...	...	...
7.	Maize, tender	54	0·11	0·17	0·6	6	...	0	...	...	...	...	...
8.	Maize, dry	1,502	0·42	0·10	1·4	0	...	...	...	...	...	...	...
9.	Oatmeal	0	0·54	0·12	1·1	...	...	...	...	...	...	...	...
10.	Panivaragu	0	0·20	0·18	2·3	0	...	748	...	...	...	...	...
11.	Ragi	70	0·42	0·10	1·1	0	...	...	...	...	...	...	...
12.	Rice, raw, home-pounded	0	0·21	0·16	3·9	0	...	77	...	...	...	...	...
13.	Rice, raw, milled	0	0·09	0·03	1·9	0	...	...	...	...	...	...	...
14.	Rice, parboiled, home-pounded	15	0·27	0·12	4·0	...	...	...	...	...	...	...	...
15.	Rice, parboiled, milled	0	0·21	0·09	3·8	0	...	...	...	...	...	...	...
16.	Rice, raw, unmilled (prepared in wooden grinder)	...	0·29	...	4·6	...	...	...	...	...	...	...	...
19.	Rice bran	...	2·70	0·48	...	...	...	...	...	...	...	...	...
20.	Rice flakes	0	0·21	0·05	4·0	0	...	...	...	...	...	...	...

21. Rice, puffed	0	0·21	0·12	4·1	0	...	...	...	...	...	...	...
22. Samai	0	0·30	0·09	3·2	0	...	...	...	...	...	...	...
24. Suji	...	0·12	...	1·2	...	...	...	...	...	...	...	...
27. Vermicelli	0	0·19	0·27	2·4	0	...	...	...	...	...	...	...
28. Varagu	0	0·33	0·10	1·7	0	...	...	...	...	...	...	...
29. Wheat, whole*	108	0·45	0·12	5·0	0	...	206	...	...	...	...	...
30. Wheat flour, whole (atta)*	49	0·49	0·29	4·3	0	...	...	...	...	...	...	...
31. Wheat flour, refined (maida)*	43	0·12	0·07	0·9	0	...	...	...	...	...	...	...
PULSES AND LEGUMES†												
32. Bengalgram, whole	316	0·30	0·51	2·1	3	10·0	194	125	240	1·3	0·54	0·29
33. Bengalgram, roasted	189	0·20	0·50	1·3	0	...	...	...	...	...	...	...
34. Bengalgram dhal	216	0·48	0·18	2·4	1	...	...	...	...	...	...	...
36. Blackgram dhal	64	0·42	0·37	2·0	0	7·5	206	144	90	3·5	0·65	0·19
37. Chavli, small	0	0·41	0·85	...	0	...	...	...	...	...	...	...
38. Chavli, big	0	0·63	0·65	...	0	...	...	...	...	...	...	...
39. Cowgram	60	0·50	0·48	1·3	0	...	202	...	...	...	...	...
40. Field bean, dry	0	0·52	0·16	1·8	0	...	352	...	...	...	...	...
41. Greengram, whole	158	0·47	0·39	2·1	1	8·0	167	145	70	2·5	0·57	0·30
42. Greengram dhal	83	0·72	0·15	2·4	0	...	...	...	...	...	...	...
43. Horsegram	119	0·42	0·20	1·5	1	...	...	...	...	...	...	...
44. Khesari dhal	200	0·39	0·41	2·2	0	7·5	...	100	140	2·6	0·65	...
45. Lentil	450	0·45	0·49	1·5	0	13·2	299	107	130	1·6	0·49	0·25
46. Mothbeans	16	0·45	0·09	1·5	2	...	...	...	...	...	...	...
47. Peas, dried	66	0·47	0·38	1·9	0	8·2	235	51	150	2·1	0·14	0·15
48. Peas, roasted	31	0·47	0·21	3·5	0	...	...	...	...	...	...	...
51. Redgram	220	0·45	0·51	2·6	0	7·6	183	83	100	1·5	0·30	...
52. Soyabean	710	0·73	0·76	2·4	...	...	...	...	...	...	...	...
LEAFY VEGETABLES												
55. Agathi	9,000	0·21	0·09	1·2	169	...	...	...	...	...	...	...
56. Amaranth, tender	9,200	0·03	0·10	1·0	99	...	31	...	...	...	...	...

* Based on figures for independent analysis of the products concerned and do not represent changes due to processing.

† Pulses after sprouting contain 10-15 milligrams of vitamin C per 100 gms.

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
57.	Amaranth, spined	5,940	0	0·01	0·2	33	...	...	...	...	...	...	...
58.	Ambat chuka	6,100	0·03	0·06	0·2	12	...	...	...	...	...	...	...
61.	Bamboo, tender shoots	0	0·08	0·19	0·2	5	...	8	...	...	...	...	...
62.	Bathua leaves	4,680	0·01	0·12	0·6	32	...	...	...	...	...	...	...
63.	Beet greens	9,770	0·26	0·56	3·3	70	...	...	...	...	...	...	...
64.	Bengalgram leaves	1,631	0·09	0·10	0·6	61	...	...	...	...	...	...	...
66.	Brussels sprouts	210	0·05	0·20	0·4	72	...	...	...	...	...	...	...
67.	Cabbage	2,000	0·06	0·03	0·4	124	...	120	...	...	...	...	...
68.	Carrot leaves	9,500	0·04	0·20	0·5	79	...	...	...	...	...	...	...
70.	Celery leaves	6,650	0	0·01	1·2	62	...	...	...	...	...	...	...
73.	Chekkur manis	9,510	0·48	0·32	2·6	247	...	...	...	...	...	...	...
74.	Chowli	10,120	0·05	0·18	0·6	4	...	...	...	...	...	...	...
78.	Colocasia—black variety, leaves	20,000	0·06	0·45	1·9	63	...	...	...	...	...	...	...
79.	Colocasia—green variety, leaves	23,000	0·07	0·23	1·2	12	...	...	...	...	...	...	...
80.	Colocasia—black variety, stem	600	0	0·01	0·1	0	...	...	...	...	...	...	...
81.	Colocasia—green variety, stem	700	0	0·04	0·2	0	...	...	...	...	...	...	...
84.	Coriander leaves	11,530	0·05	0·06	0·8	135	...	...	...	...	...	...	...
85.	Curry leaves	12,600	0·08	0·21	2·3	4	...	...	...	...	...	...	...
86.	Drumstick leaves	11,300	0·06	0·05	0·8	220	...	...	...	...	...	...	...
87.	Fenugreek	6,450	0·05	0·15	0·7	54	...	...	...	...	...	...	...
90.	Garden cress	...	0·15	...	...	...	...	...	...	...	...	...	...
91.	Garden sorrel (sepals)	120	0	0·07	0	5	...	...	...	...	...	...	...

92.	Giria sag (Moras)	3,500	0·01	0·05	0·2	13	...	...	...	...	...	...	...
93.	"Gogu"	4,830	0·07	0·21	1·5	20	...	...	...	...	...	...	...
95.	Gram leaves	6,700	...	...	...	...	...	...	...	...	...	...	...
96.	Ipomoea leaves	3,300	0·05	0·12	0·6	137	...	...	...	...	...	...	...
104.	Khesari leaves	6,000	0·01	0·03	...	41	...	...	...	...	...	...	...
105.	Knol-khol greens	9,350	0·10	0·16	1·7	69	...	...	...	...	...	...	...
109.	Kulfa	920	...	...	0·3	17	...	...	...	...	...	...	...
110.	Kuppameni	...	...	...	...	147	...	...	...	...	...	...	...
111.	Kuppakeerai	...	...	...	...	178	...	...	...	...	...	...	...
112.	Lettuce	1,650	0·09	0·13	0·5	10	...	178	...	...	...	...	...
113.	Lettuce tree leaves, tender	1,480	0·03	0·11	0·2	10	...	...	...	...	...	...	...
117.	"Manathakkali"	...	...	...	...	11	...	...	...	...	...	...	...
119.	Mayalu	12,400	0·03	0·16	0·5	87	...	...	...	...	...	...	...
121.	Mint	2,700	0·05	0·08	0·4	27	...	...	...	...	...	...	...
123.	Mukarratai	...	...	...	...	27	...	...	...	...	...	...	...
124.	Mustard leaves	4,370	0·03	...	...	33	...	...	...	...	...	...	...
126.	Neem, mature	3,330	0·04	0	1·4	218	...	...	...	...	...	...	...
127.	Neem, tender	4,600	0·06	0	1·5	104	...	...	...	...	...	...	...
128.	Nerringi	...	...	...	...	41	...	...	...	...	...	...	...
131.	Pacharisi keerai	...	...	...	...	44	...	...	...	...	...	...	...
133.	Parsley	3,200	0·04	0·18	0·5	281	...	...	...	...	...	...	...
136.	Paruppu keerai (purslane)	3,820	0·10	0·22	0·7	29	...	...	...	...	...	...	...
138.	Ponnanganni leaves	3,210	0	0·14	1·2	17	...	...	...	...	...	...	...
143.	Punnaku keerai	...	...	...	...	145	...	...	...	...	...	...	...
144.	Radish tops	18,660	0·03	0·16	0·3	103	...	...	...	...	...	...	...
145.	Rajakeera leaves	23,650	0·01	0·24	1·1	81	...	...	...	...	...	...	...
146.	Rape leaves	2,300	0·01	0·03	0·9	65	...	...	...	...	...	...	...
148.	Safflower leaves	5,900	0·04	0·10	0	15	...	0	...	...	...	...	...
151.	Saravallai keerai	...	...	...	...	70	...	...	...	...	...	...	...
156.	Shepu	11,970	0·03	0·13	0·2	25	...	...	...	...	...	...	...
160.	Sonchal sag	4,150	...	...	0·2	79	...	...	...	...	...	...	...
161.	Spinach	9,300	0·03	0·07	0·5	28	...	...	...	...	...	...	...
162.	Soya leaves	...	...	0·16	...	...	...	...	...	...	...	...	...
165.	Sweet potato greens	1,250	0·07	0·24	1·7	27	...	...	...	...	...	...	...
166.	Table radish leaves	9,570	0·18	0·35	5·5	106	...	...	...	...	...	...	...
167.	Tamarind leaves, tender	418	0·24	0·17	4·1	3	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
169.	Takla	16,920	0·08	0·19	0·8	82	...	...	...	...	...	...	...
172.	Turnip greens	15,660	0·31	0·57	5·4	180	...	...	...	...	...	...	...
177.	Vella keerai	...	...	...	...	203	...	...	...	...	...	...	...
179.	Watercress	4,672	0·12	0·38	0·8	13	...	...	...	...	...	...	...
	ROOTS AND TUBERS												
182.	Banana rhizome	27	0	0·32	0·2	1	...	...	...	...	...	...	...
183.	Beet root	0	0·04	0·09	0·4	88	...	242	...	...	...	...	...
185.	Bola	...	0·07	0·01	0·8	0	...	...	...	...	...	...	...
187.	Canna, edible	0	0·06	0·06	1·7	5	...	...	...	...	...	...	...
188.	Carrot	3,150	0·04	0·02	0·6	3	...	168	...	...	...	...	...
191.	Colocasia	40	0·09	0·03	0·4	0	...	...	...	...	...	...	...
193.	Goti gadda	0	0·31	0·25	0·6	9	...	...	...	...	...	...	...
197.	Lotus root	...	0·10	...	...	22	...	...	...	...	...	...	...
198.	Mango ginger	34	0·01	0·3	0	1	...	...	...	...	...	...	...
201.	"Nulu gadda"	...	...	0·01	0·4	11	...	...	...	...	...	...	...
204.	Onion, big	0	0·08	0·01	0·4	11	...	...	...	...	...	...	...
205.	Onion, small	25	0·08	0·02	0·5	2	...	...	...	...	...	...	...
206.	Parsnip	30	0·06	...	0·4	16	...	...	...	...	...	...	...
207.	Potato	40	0·10	0·01	1·2	17	...	100	...	...	...	...	...
208.	Radish, white	5	0·06	0·02	0·5	15	...	63	...	...	...	...	...
209.	Radish, pink	5	0·06	0·02	0·4	17	...	...	...	...	...	...	...
212.	Sweet potato	10	0·08	0·04	0·7	24	...	...	...	...	...	...	...
213.	Tapioca	...	0·05	0·10	0·3	25	...	...	...	...	...	...	...
214.	Tapioca chips, dried	0	0·23	0·10	1·4	0	...	...	...	...	...	...	...
216.	Turnip	0	0·04	0·04	0·5	43	...	137	...	...	...	...	...

219.	Yam (ordinary)	130	0·07	0	0·7	0	...	...	...	...	...	...	...
220.	Yam (elephant)	434	0·06	0·07	0·7	0	...	...	...	...	...	...	...
221.	Yam, wild	943	0·19	0·47	1·2	1	...	...	...	...	...	...	...

OTHER VEGETABLES

224.	Amaranth, stem	425	0·01	0·18	0	10	...	...	...	...	...	...	...
225.	Amaranth seeds (Arakkeerai)	0	0·14	0·34	0·5	1	...	...	...	...	...	...	...
226.	Amaranth (Thandukkeerai)	0	0·03	0·16	0·3	1	...	...	...	...	...	...	...
227.	Amaranth (Sirukeerai)	0	0·03	0·13	0·8	1	...	...	...	...	...	...	...
228.	Artichoke	63	0·23	0·01	...	0	...	...	...	...	...	...	...
229.	Ashgourd	0	0·06	0·01	0·4	1	...	...	...	...	...	...	...
231.	Beans, runner or scarlet	57	0·34	0·19	0	27	...	...	...	...	...	...	...
232.	Bitter gourd	210	0·07	0·09	0·5	88	...	...	...	...	...	...	...
233.	Bittergourd, small variety	210	0·07	0·06	0·4	96	...	...	...	...	...	...	...
234.	Brinjal	124	0·04	0·11	0·9	12	...	52	...	...	...	...	...
235.	Broad beans	16	0·08	...	0·8	12	...	5	...	...	...	...	...
236.	Calabash cucumber	0	0·03	0·01	0·2	6	...	...	...	...	...	...	...
237.	Cauliflower	51	0·04	0·10	1·0	56	...	127	...	...	...	...	...
238.	Celery stalks	867	0·12	0·05	0·3	6	...	...	...	...	...	...	...
240.	"Cho-cho" marrow	0	0	0·04	0·4	4	...	...	...	...	...	...	...
241.	Cluster beans	316	0·09	0·09	0·6	47	...	...	...	...	...	...	...
242.	Colocasia stems	174	0·07	0·07	0·1	3	...	...	...	...	...	...	...
243.	Cowpea pod (red)	941	0·07	0·09	0·9	14	...	...	...	...	...	...	...
245.	Cucumber	0	0·03	0·01	0·2	7	...	0	...	...	...	...	...
246.	Daincha seeds	58	0·33	0·31	2·5	2	...	...	...	...	...	...	...
247.	Double beans	...	...	...	...	22	...	...	...	...	...	...	...
248.	Drumstick	184	0·05	0·07	0·2	120	...	...	...	...	...	...	...
249.	Field beans, tender	312	0·10	0·06	0·7	9	...	4	...	...	...	...	...
251.	French beans	221	0·08	0·06	0·3	14	...	...	...	...	...	...	...
252.	Ghosala	200	0·02	0·06	0·4	0	...	...	...	...	...	...	...
253.	Giant chillies	596	0·29	0·05	0·1	80	...	...	...	...	...	...	...
256.	Jack, tender	0	0·05	0·04	0·2	...	...	...	...	...	...	...	...
257.	Jackfruit seeds	17	0·25	0·11	0·3	11	...	52	...	...	...	...	...
260.	Kankoda	2,700	0·05	0·18	0·6	...	...	...	...	...	...	...	...
263.	Kovai fruit, tender	260	0·07	0·08	0·6	22	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
264.	Knol-khol	36	0·05	0·09	0·5	85	...	...	...	...	...	...	...
266.	Ladies fingers	88	0·07	0·10	0·6	13	...	...	...	...	...	...	...
268.	Leeks	30	0·23	...	...	11	...	...	...	...	...	...	...
270.	Mango, green	150	0·04	0·01	0·2	3	...	0	7	...	...	...	...
271.	Mango seed kernel (Totapuri)	44	0·22	0·28	0	11	...	...	...	...	...	...	...
272.	Mango seed kernel (Neelam)	24	0·21	0·11	0	6	...	...	...	...	...	...	...
273.	Mogra (red variety)	500	0·03	0·04	0·5	...	...	...	...	...	...	...	...
274.	Mogra (green variety)	1,090	0·04	0·03	0·4	74	...	...	...	...	...	...	...
275.	Mushroom, paddy straw	0	0·14	0·61	2·4	12	...	...	...	...	...	...	...
276.	Nellikai	15	0·03	0·01	0·2	600	...	256	...	...	...	...	...
278.	Onion stalks	993	0	0 03	0·3	17	...	...	...	...	...	...	...
279.	"Parwar"	255	0·05	0·06	0·5	29	...	...	...	...	...	...	...
280.	Peas, English	139	0·25	0·01	0·8	9	...	20	...	...	...	...	...
281.	Pink beans	755	0·06	0·78	0·6	12	...	33	...	...	...	...	...
282.	Plantain flower	45	0·05	0·02	0·4	16	...	5	...	...	...	...	...
283.	Plantain, green	50	0·05	0·02	0·3	24	...	...	...	...	...	...	...
284.	Plantain, stem	0	0·02	0·01	0·2	7	...	...	...	...	...	...	...
285.	Pumpkin	84	0·06	0·04	0·5	2	...	136	...	...	...	...	...
286.	Radish, table	8	0·02	0·03	1·4	21	...	...	...	...	...	...	...
289.	Redgram, tender	782	0·32	0·33	3·0	25	...	72	...	...	...	...	...
290.	Rhubarb stalks	...	...	...	...	37	...	...	...	...	...	...	...
291.	Ridge gourd	56	0·07	0·01	0·2	5	...	...	...	...	...	...	...
293.	Seaweed-Gracilaria	1,350	0·05	...	1·1	4	...	...	...	...	...	...	...
294.	Seaweed-Gracilaria	165	0	...	0	...	...	...	...	...	...	...	...

295.	Seaweed-Hypnea	439	0·04	...	2·0	1	...	...	...	...	...	...	...
296.	Seaweed-Hypnea	22	0·06	...	0	1	...	...	...	...	...	...	...
297.	Seaweed-Ulva	1,010	0·08	...	2·1	2	...	...	...	...	...	...	...
298.	Seaweed-Ulva	149	0·02	...	0	1	...	...	...	...	...	...	...
299.	Snakegourd	160	0·04	0·06	0·3	0	...	...	...	...	...	...	...
300.	Spinach stalks	...	...	...	...	3	...	...	...	...	...	...	...
301.	"Sundakai" dry	750	...	...	...	0	...	...	...	...	...	...	...
302.	Sword beans	40	0·08	0·08	0·5	12	...	...	...	...	...	...	...
304.	Tinda, tender	23	0·04	0·08	0·3	18	...	0	...	...	...	...	...
305.	Tomato, green	320	0·07	0·01	0·4	31	...	0	...	...	...	...	...
306.	Vegetable marrow	0	0·02	0	0·4	18	...	...	...	...	...	...	...
307.	Water chestnut	20	0·05	0·07	0·6	9	...	...	...	...	...	...	...
308.	Water chestnut	...	...	0·07	...	9	...	...	...	...	...	...	...

NUTS AND OIL SEEDS

309.	Almond	0	0·24	0·15	2·5	0	...	...	...	...	...	...	...
310.	Cashewnut	100	0·63	0·19	2·1	0	...	...	...	...	...	...	...
311.	Charoli seeds	0	0·69	0·53	1·5	5	...	...	...	...	...	...	...
312.	Coconut, dry	0	0·08	0·06	0·6	7	...	...	...	...	...	...	...
313.	Garden cress seeds	45	0·59	0·61	14·3	0	...	...	...	...	...	...	...
314.	Gingelly seeds	100	1·01	0·06	4·4	0	...	...	...	...	...	...	...
315.	Groundnut	63	0·90	0·30	14·1	0	...	224	...	...	...	...	...
316.	Groundnut, roasted	0	0·39	0·13	8·8	0	...	...	...	...	...	...	...
317.	Jungli Badam	0	0·06	0·08	1·1	5	...	...	...	...	...	...	...
319.	Linseed seeds	50	0·23	0·07	0·5	0	...	...	...	...	...	...	...
320.	Mustard seeds	270	0·65	0·07	4·0	0	...	211	...	...	...	...	...
321.	Niger seed	...	0·07	0·97	6·8	...	...	...	...	...	...	...	...
323.	Pistachio nut	240	0·67	0·03	1·4	0	...	...	...	...	...	...	...
324.	Sunflower seeds	0	0·86	0·03	5·0	1	...	...	...	...	...	...	...
325.	Walnut	10	0·45	0·05	1·6	0	...	...	...	...	...	...	...

CONDIMENTS, SPICES ETC.

327.	Asafoetida	8	0	0·04	0·3	0	...	...	...	...	...	...	...
328.	Cardamom	0	0·22	0·17	0·8	0	...	1,550	...	...	...	...	...
329.	Chillies, green	292	0·19	0·39	0·9	111	...	...	...	...	...	...	...
330.	Chillies, dry	576	0·93	0·43	9·5	50	...	...	...	...	...	...	...
331.	Cloves, dry	422	0·08	0·13	0	0	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
332.	Cloves, green	120	...	...	...	...	...	...	...	...	...	...	...
333.	Coriander	1,570	0·22	0·35	1·1	0	...	1,077	...	...	...	...	...
334.	Cumin seeds	870	0·55	0·36	2·6	3	...	1,065	...	...	...	...	...
335.	Fenugreek seeds	160	0·34	0·29	1·1	0	...	1,161	...	...	...	...	...
336.	Garlic, dry	0	0·16	0·23	0·4	13	...	...	...	...	...	...	...
337.	Ginger, fresh	67	0·06	0·03	0·6	6	...	...	...	...	...	...	...
340.	Mace	5,045	0·25	0·42	1·4	0	...	...	...	...	...	...	...
341.	Nutmeg	0	0·33	0·01	1·4	0	...	...	...	...	...	...	...
342.	Nutmeg rind	8	...	...	...	...	...	...	...	...	...	...	...
343.	Omum	119	0·21	0·28	2·5	...	...	...	...	...	...	...	...
344.	Pepper, green	900	0·05	0·04	0·2	1	...	...	...	...	...	...	...
345.	Pepper, dry	1,800	0·09	0·14	1·4	...	...	...	...	...	...	...	...
346.	Tamarind pulp	100	...	0·07	0·7	3	...	...	...	...	...	...	...
347.	Turmeric	50	0·03	0	2·3	0	...	...	...	...	...	...	...
	FRUITS AND FRUIT PRODUCTS												
348.	Ambada	450	0·02	0·02	0·3	21	...	...	...	...	...	...	...
349.	Apple	0	0·12	0·03	0·2	2	...	321	...	...	...	...	...
350.	Apple, Ambri sev	0	...	...	0	1	...	...	...	...	...	...	...
351.	Apple, Desi sev	0	...	...	0	1	...	...	...	...	...	...	...
352.	Apple, golden sev	217	...	...	0	1	...	...	...	...	...	...	...
353.	Apple, Kotgarh sev	0	...	...	0	1	...	...	...	...	...	...	...
354.	Apple, Kulu sev	0	...	...	0	1	...	...	...	...	...	...	...
355.	Apple, Maharaji sev	0	...	...	0	1	...	...	...	...	...	...	...
356.	Apple, Red Royal, large	0	...	...	0	1	...	...	...	...	...	...	...

357. Apricots, fresh	3,600	0·04	0·13	0·6	6	...	...	...	...	...	...	...
358. Apricots, dried	98	0·22	...	2·3	2	...	...	...	...	...	...	...
359. Bael fruit	93	0·13	1·19	1·1	8	...	...	...	...	...	...	...
361. Bamboo fruit	19	0·09	0·09	...	1	...	...	...	...	...	...	...
362. Banana, ordinary	124	0·05	0·17	0·3	6	...	...	...	...	...	...	...
363. Banana, "Anaikombu" hill variety	124	...	...	...	9	...	...	...	...	...	...	...
364. Banana, Chitridar kela	0	...	...	0·5	1	...	...	...	...	...	...	..
365. Banana, green variety	90	0·03	0·03	0·5	0	...	...	...	...	...	...	...
366. Banana, Krishna vazhai	223	0·02	0·05	0·5	7	...	...	...	...	...	...	...
367. Banana, Laden	28	0·03	0·03	...	6	...	...	...	...	...	...	...
368. Banana, Nendran	0	0·15	0·03	0·3	1	...	...	...	...	...	...	...
369. Banana, Pachanadan	248	0·03	0·06	0·5	6	...	...	...	...	...	...	...
370. Banana, Raja vazhai	68	0·03	0·07	0·5	11	...	...	...	...	...	...	...
371. Banana, Rasthali	8	0·04	0·02	...	6	...	...	...	...	...	...	...
372. Banana, Red variety	329	0·09	0·06	0·4	15	...	...	...	...	...	...	...
373. Banana, Thenkadali	470	0·03	0·06	0·6	5	...	...	...	...	...	...	...
374. Banana, Thenkunnan	54	0·04	0·05	0·8	17	...	...	...	...	...	...	...
375. Banana, Vellakadali	189	0·05	0·04	0·5	5	...	...	...	...	...	...	...
376. Banana, yellow, large	50	0·03	0·02	0·5	0	...	...	...	...	...	...	...
377. Banana, yellow, small	80	0·05	0·01	0·6	8	...	...	...	...	...	...	...
378. Barhar	424	0·02	0·15	0·3	13	...	...	...	...	...	...	...
382. Bilimbi	31	0·09	0·04	0·6	32	...	...	...	...	...	...	...
383. Blackberry	13	...	...	2·0	9	...	...	...	...	...	...	...
384. Bor	35	0·02	0·05	0·7	76	...	...	...	...	...	...	...
386. Bread fruit	15	0·04	0·07	...	21	...	...	...	...	...	...	...
387. Bullock's heart	113	...	0·07	0·6	5	...	...	...	...	...	...	...
388. Cape gooseberry	2,380	0·05	0·02	0·3	49	...	...	...	...	...	...	...
390. Cashew fruit	39	0·02	0·05	0·4	180	...	...	...	...	...	...	...
391. Cherries, red	0	0·08	0·08	0·3	7	...	...	...	...	...	...	...
392. Chibhood	1,150	0·01	0·01	0·4	12	...	...	...	...	...	...	...
393. Cherimoyer	4	0·03	0·21	1·0	7	...	...	...	...	...	...	...
394. Currants, black	35	0·03	0·14	0·4	1	...	...	...	...	...	...	...
395. Dates, dried	44	0·01	0·02	0·9	3	...	...	...	...	...	...	...
396. Dates, preserved (Persian)	600	0·09	0·03	0·8	0	...	...	...	...	...	...	...
398. Durain, ripe	20	...	...	...	...	...	...	...	...	...	...	...
399. Figs	270	0·06	0·05	0·6	5	...	...	...	...	...	...	...
401. "Galgal" (sour lime)	0	...	...	0	16	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
402.	Grapes (blue variety)	5	0·04	0·01	0·1	1	...	...	...	...	...	...	...
403.	Grapes (pale green variety)	0	...	...	0	1	...	...	...	...	...	...	...
404.	Grapefruit (Triumph)	...	0·12	0·02	0·3	31 (Juice)	...	...	...	...	...	...	...
405.	Grapefruit (Marsh's seedless)	...	0·12	0·02	0·3	...	...	...	...	...	...	...	...
406.	Guava, country	0	0·03	0·03	0·3	212	...	...	...	...	...	...	...
407.	Guava, hill	0	0·02	0·02	0·3	15	...	...	...	...	...	...	...
408.	Guava, Japanese	147	0·01	0·26	0	44	...	...	...	...	...	...	...
412.	Jackfruit	292	0·03	0·13	0·4	7	...	0	...	...	...	...	...
413.	Jam	...	0·01	0·02	0·1	30	...	...	...	...	...	...	...
415.	Jambu fruit	80	0·03	0·01	0·2	18	...	7	3	...	...	...	...
417.	"Karwanda", green	1,619	...	...	...	1	...	...	...	...	...	...	...
421.	"Kila pazham", small	80	...	...	...	...	...	...	...	...	...	...	...
422.	"Korukka palli"	0	0·22	0·06	1·6	108	...	...	...	...	...	...	...
424.	Langsat	13	0·09	0·12	0	1	...	...	...	...	...	...	...
425.	Lemon, sour	0	...	...	0·1	26	...	...	...	...	...	...	...
426.	Lemon, sweet	0	...	...	0	45	...	...	...	...	...	...	...
427.	Lemon	0	0·02 (Juice)	0·01 (Juice)	0·1 (Juice)	39 (Juice)	...	...	...	...	...	...	...
428.	Lichis	0	0·02	0·06	0·4	31	...	...	9	...	...	...	...
429.	Lime juice	...	0·02	0·02	0·1	63	...	...	...	...	...	...	...
430.	Lime	26	...	...	...	...	...	...	...	...	...	...	...
431.	Lime, sweet, Musammi	0	...	...	0	50	...	...	...	...	...	...	...
432.	Loquat	933	...	...	0	0	...	...	...	...	...	...	...
434.	Mahua, ripe	512	...	...	...	40	...	...	...	...	...	...	...

435.	Malta sweet lime	0	...	...	0	54	...	...	...	...	...	...	...
436.	Mango, ripe	4,800	0·04	0·05	0·3	13	...	...	...	...	...	...	...
437.	Mango, Alphonso, Bulsar	11,420	0·07	0·10	1·6	37	...	...	...	...	...	...	...
438.	Mango, Alphonso, Ratnagiri	15,220	0·08	0·09	4·1	25	...	...	...	...	...	...	...
439.	Mango, Ankola	1,860	...	...	...	24	...	...	...	...	...	...	...
440.	Mango, Banarsi aam	1,365	...	...	0·4	3	...	...	...	...	...	...	...
441.	Mango, Banganpalle	1,134	0·05	0·04	1·9	0	...	...	...	...	...	...	...
444.	Mango, Chausa aam	500	...	...	0	46	...	...	...	...	...	...	...
445.	Mango, Dasheri aam	1,550	...	...	0	13	...	...	...	...	...	...	...
446.	Mango, Fazli aam	1,220	...	...	0·6	0	...	...	...	...	...	...	...
447.	Mango, Gola aam	1,020	...	...	0	0	...	...	...	...	...	...	...
450.	Mango, Langda aam	1,035	...	...	1·5	83	...	...	...	...	...	...	...
451.	Mango, Malda aam	530	...	...	0·2	0	...	...	...	...	...	...	...
453.	Mango, Mankur, Goa	25,940	0·13	0·20	6·3	40	...	...	...	...	...	...	...
454.	Mango, Nilam aam	740	...	...	0	18	...	...	...	...	...	...	...
455.	Mango, Perreira, Bulsar	10,560	0·04	0·07	1·3	4	...	...	...	...	...	...	...
456.	Mango, Perreira, Ratnagiri	14,530	0·11	0·11	1·7	4	...	...	...	...	...	...	...
457.	Mango, Rusbahar aam	150	...	...	0	0	...	...	...	...	...	...	...
458.	Mango, Safeda aam	1,200	...	...	0	7	...	...	...	...	...	...	...
459.	Mango, Saharanpuri	3,250	...	...	0·3	1	...	...	...	...	...	...	...
462.	Mango, Summer bhaisht	1,000	...	...	0	0	...	...	...	...	...	...	...
463.	Mango, Tamuri aam	900	...	...	0·3	16	...	...	...	...	...	...	...
464.	Mango, Tota aam	650	...	...	0	20	...	...	...	...	...	...	...
465.	Mango powder	0	...	...	1·6	41	...	...	...	...	...	...	...
466.	Mango seed kernel, Neelam	24	0·21	0·11	0	6	...	...	...	...	...	...	...
467.	Mango seed kernel, Totapuri or Bangalore	44	0·22	0·28	0	11	...	...	...	...	...	...	...
471.	Melon, water	0	0·02	0·04	0·1	1	...	0	...	...	...	...	...
472.	Melon, white	450	0·11	0·08	0·5	32	...	...	...	...	...	...	...
473.	Melon, white, Sherda	130	...	...	0·1	29	...	...	...	...	...	...	...
474.	Melon, white, Phutt	265	...	...	0·1	10	...	...	...	...	...	...	...
475.	Melon, white, seeds	0	...	...	1·6	0	...	...	...	...	...	...	...
476.	Mulberry, English black	16	0·06	0·09	0·2	10	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
477.	Mulberry fruit, MR 2	174	0·01	0·18	0·8	13	...	...	...	...	...	...	...
481.	Orange, loose-jacketed	326	0·12	0·06	0·3	68	...	...	...	...	...	...	...
483.	Orange, Nagpur santra	1,800	...	...	0	30	...	...	...	...	...	...	...
484.	Orange, Nahan santra	880	...	...	0	30	...	...	...	...	...	...	...
486.	Orange juice	25	0·06	0·02	0·4	64	...	...	...	...	...	...	...
487.	Palmyra fruit, tender	0	0·01	0·01	0·2	4	...	...	...	...	...	...	...
490.	Pannirkoyya	235	0·01	0·05	0·4	3	...	...	3	...	...	...	...
492.	Papayya, ripe	1,110	0·04	0·25	0·2	57	...	...	...	...	...	...	...
493.	Papayya, unripe fruit	0	0·01	0·01	0·1	12	...	...	...	...	...	...	...
494.	Passion fruit	90	0·07	0·14	1·6	25	...	...	...	...	...	...	...
495.	Passion fruit (giant)	6	0·10	0·02	2·4	64	...	...	...	...	...	...	...
496.	Passion fruit juice (yellow)	3,280	0·01	0·02	0	13	...	...	...	...	...	...	...
497.	Peaches	0	0·02	0·03	0·5	6	...	...	...	...	...	...	...
498.	Pears, "Bagugosha"	0	...	...	0·2	1	...	...	...	...	...	...	...
499.	Pears, Chinese	9	0·01	0·04	0	1	...	...	...	...	...	...	...
500.	Pears, country	14	0·02	0·03	0·2	0	...	...	...	...	...	...	...
501.	Pears, "Desi pear"	0	...	...	0·1	2	...	...	...	...	...	...	...
502.	Pears, English	80	0·09	...	0·2	...	...	...	...	...	...	...	...
503.	Pears, "Kashmiri nakh"	0	...	...	0	3	...	...	...	...	...	...	...
504.	Pears, avocado	...	...	...	...	13	...	...	...	...	...	...	...
505.	Pears, Kieffer	9	0·03	0·02	0	7	...	...	...	...	...	...	...
507.	Persimmon	3,780	0·03	0·01	0	33	...	...	...	...	...	...	...
508.	Phalsa	699	...	...	0·3	22	...	...	...	...	...	...	...
509.	Pineapple	30	0·20	0·12	0·1	39	...	8	...	...	...	...	...
512.	Plums, Gaviota	608	0·01	0·19	0·4	5	...	...	...	...	...	...	...
513.	Plums, Hale	53	...	0·03	0	5	...	...	...	...	...	...	...

514.	Plums, red, Nilgiris	230	0·12	0·03	0·3	1	...	...	...	...	...	...	...
515.	Plums, red, Punjab	166	...	...	0·1	0	...	...	...	...	...	...	...
516.	Plums, Rubio	241	0·03	0·18	0·2	13	...	...	...	...	...	...	...
517.	Plums, Satsuma	42	0·03	0·07	0·6	9	...	...	...	...	...	...	...
518.	Plums, Shiro	145	0·03	0·08	0·2	2	...	...	...	...	...	...	...
519.	Plums, small, alucha	983	...	...	0·2	0	...	...	...	...	...	...	...
520.	Plums, yellow green, Punjab	417	...	...	0·2	0	...	...	...	...	...	...	...
521.	Pomegranate	0	0·06	0·10	0·3	16	...	...	...	...	...	...	...
522.	Pomegranate, Punjab, plain	0	...	...	0	10	...	...	...	...	...	...	...
523.	Pomegranate, Punjab, Anar lal	0	...	...	0	15	...	...	...	...	...	...	...
524.	Pomeloe	200	0·03	0·03	0·2	20	...	...	...	...	...	...	...
525.	Prunes	317	0·56	...	1·6	2	...	...	...	...	...	...	...
527.	Radish fruit	50	0·07	0·05	0·2	69	...	...	...	...	...	...	...
528.	Raisins, preserved	0	0·06	0·10	0·5	0	...	...	...	...	...	...	...
529.	Raisins, cheap variety	12	0·03	0·29	0·5	1	...	...	...	...	...	...	...
530.	Raisins, costly variety	0	0·11	0·17	1·2	3	...	...	...	...	...	...	...
531.	Raisins, big size with seeds	0	0·12	0·23	0·5	3	...	...	...	...	...	...	...
532.	Raspberry	2,080	...	...	0·8	30	...	...	...	...	...	...	...
533.	Rayan	675	0·07	0·08	0·7	16	...	...	...	...	...	...	...
534.	Sakkarteti (Ker)	2,750	0·01	0·01	0·3	23	...	...	...	...	...	...	...
535.	Sapotas, cricket ball, Nilgiris	31	0·02	0·04	0·6	1	...	...	...	...	...	...	...
536.	Sapotas, Bombay chiku	500	0·01	0·01	0·2	10	...	...	...	...	...	...	...
537.	Sapotas, Hyderabad chiku	117	...	...	0·1	6	...	...	...	...	...	...	...
538.	Sapota, Punjab cheekoo	0	...	...	0·1	6	...	...	...	...	...	...	...
540.	Sharifa or custard apple, Punjab	0	...	...	0·8	58	...	...	...	...	...	...	...
541.	"Sithaphal", Hyderabad	0	0·33	0·44	1·8	16	...	...	...	...	...	...	...
544.	Strawberry	30	0·03	0·02	0·2	52	...	...	...	...	...	...	...
545.	Tamarind, pulp	100	0·06	...	0·7	3	...	...	...	...	...	...	...
547.	Thavittu pazham	74	0·07	0·04	0·3	0	...	...	...	...	...	...	...
549.	Tomato, ripe	585	0·12	0·06	0·4	27	...	...	...	...	...	...	...
550.	Tomatillo	80	0·05	0·02	2·1	2	...	...	...	...	...	...	...
551.	Tree tomato	540	0·11	0·06	2·1	0	...	...	...	...	...	...	...
552.	Tuki	602	0·01	0·04	2·3	1	...	...	...	...	...	...	...
554.	Vikkipazham	317	0·02	0·06	0·3	0	...	...	...	...	...	...	...
555.	Wood apple	102	0·04	0·17	0·8	3	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Carotene I.U. Vit. A	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, µg.	Choline, mg.	Folic acid µg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	FISHES													
556.	Air	...	...	...	...	0·5	11	...	...	...	...	...	...	...
559.	Bacha	...	...	...	...	0·6	13	...	...	...	...	...	...	...
560.	Bam	...	...	...	...	0·9	3	...	438	...	...	...	...	...
563.	Bele	...	...	...	...	0·3	3	...	388	...	...	...	...	...
564.	Bhangar	...	...	...	...	1·8	12	...	...	...	...	...	...	...
565.	Bhangar bata	...	...	...	...	0·6	0	...	...	...	...	...	...	...
566.	Bhetka	...	...	...	...	0·7	10	...	349	...	...	...	...	...
567.	Bhole	...	...	...	...	0·5	14	...	...	...	...	...	...	...
571.	Boal	...	...	...	...	1·0	8	...	108	...	...	...	...	...
572.	Bugda chinghri	...	...	...	...	...	7	...	...	...	...	...	...	...
573.	Cat fish	...	...	...	...	2·5	...	...	...	...	...	...	...	...
575.	Chital	...	...	...	...	...	...	...	943	...	...	...	...	...
577.	Crab (muscle)	0	1,300	...	...	3·1	...	...	...	...	...	...	...	...
579.	Dhain	...	...	...	...	0·9	19	...	...	...	...	...	...	...
581.	Fish flour	...	0	0·10	0·09	5·2	0	...	...	...	...	...	...	...
582.	Fish meal (Arius)	...	0	0·03	0·04	5·6	0	...	...	...	...	...	...	...
583.	Fish meal (Caranx)	...	0	0·20	0·14	5·6	0	...	...	...	...	...	...	...
584.	Fish meal (Shark)	...	0	0·19	0·03	5·1	0	...	...	...	...	...	...	...
585.	Folui	...	...	...	...	0·8	6	...	1,018	...	...	...	...	...
587.	Gima shak	...	...	0·03	0	...	...	...	...	...	...	...	...	...
590.	Hilsa	...	...	...	...	0·8	24	...	1,364	...	...	...	...	...
598.	Kalabasu	...	...	...	...	0·6	11	...	716	...	...	...	...	...
599.	Karch kala	...	...	0·01	0·01	...	...	...	...	...	...	...	...	...
600.	Katla	...	...	...	...	0·8	9	...	611	...	...	...	...	...
604.	Khoyra	...	...	...	...	0·5	...	...	...	...	...	...	...	...

605. Koi	...	...	...	...	0·8	32	...	891	...	...	...	...	...
607. Kuja vetki	...	...	...	...	...	10	...	...	...	...	...	...	...
609. Lata	...	...	...	...	1·0	0	...	...	...	...	...	...	...
612. Magur	...	...	...	...	0·5	11	...	639	...	...	...	...	...
614. Mangalore, big fish	26	9	0·10	...	2·5	...	...	...	...	...	...	...	...
615. Mangalore, small fish	26	9	0·10	...	2·5	...	...	...	...	...	...	...	...
616. Mowrala	...	...	...	...	0·5	5	...	...	...	...	...	...	...
617. Mrigal	...	...	...	...	0·7	...	...	480	...	...	...	...	...
620. Pabda	...	...	...	...	...	...	...	1,018	...	...	...	...	...
621. Pakal	...	...	...	...	0·4	0	...	...	...	...	...	...	...
623. Pangas	...	...	...	...	...	26	...	913	...	...	...	...	...
624. Parsey	...	...	...	...	0·8	6	...	...	...	...	...	...	...
626. Pomfrets	...	...	...	0·55	2·6	...	...	...	...	...	...	...	...
627. Pooin shak	...	...	0·04	0·01	...	...	...	...	...	...	...	...	...
628. Prawn (muscle)	0	0	0·09	0·10	4·8	...	...	542	...	...	...	...	...
635. Puti	...	...	...	...	0·3	15	...	393	...	...	...	...	...
639. Rohu	...	...	0·05	0·07	0·7	20	...	819	...	...	...	...	...
640. Rohu (from Jheel)	...	...	...	...	...	23	...	...	...	...	...	...	...
641. Rohu fish (Roes)	...	...	...	...	0·6	8	...	...	...	...	...	...	...
644. Sardines	...	...	...	...	2·6	...	...	...	...	...	...	...	...
646. Sarputi	...	...	...	...	...	14	...	...	...	...	...	...	...
647. Shark	...	...	...	...	2·5	...	...	...	...	...	...	...	...
653. Singhi	...	...	...	...	0·8	9	...	64	...	...	...	...	...
654. Sole	...	...	...	...	0·5	9	...	572	...	...	...	...	...
658. Tengra	...	...	...	...	...	18	...	783	...	...	...	...	...
661. Vajra	26	9	0·10	...	2·5	...	...	...	...	...	...	...	...
OTHER FLESH FOODS													
695. Beef muscle	60	0	0·15	0·04	6·4	2	...	...	...	...	...	...	...
696. Beef meal	...	0	0·03	0·44	5·8	0	...	...	...	...	...	...	...
703. Egg, duck	1,200	900	0·12	0·28	0·2	...	...	...	...	...	...	...	...
704. Egg, hen	1,200	1,000	0·10	0·18	0·1	0	...	...	...	...	...	...	...
714. Liver, sheep	22,300	0	0·36	1·70	17·6	20	...	...	...	...	...	...	...
715. Mutton (muscle)	31	0	0·18	0·27	6·8	...	...	...	...	...	...	...	...
717. Pigeon	...	...	0·10	0·20	5·6	...	...	...	...	...	...	...	...
718. Pork (muscle)	0	0	0·54	0·09	2·8	2	...	...	...	...	...	...	...
725. Turtle's meat	...	...	...	...	5·6	...	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Carotene I.U. Vit. A	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	FATS AND EDIBLE OILS													
733.	Butter*	2,500	...	...	...	...	...	...	...	...	...	...	...	...
734.	Ghee, fresh, high moisture, cow	2,000	...	...	...	...	...	...	...	...	...	...	...	...
735.	Ghee, fresh, low moisture. cow	2,000	...	...	...	...	...	...	...	...	...	...	...	...
736.	Ghee, buffalo	900	...	...	...	...	...	...	...	...	...	...	...	...
737.	Vegetable cooking oil (sesame, groundnut, coconut, safflower, mustard, etc.)	0	...	...	...	...	...	...	...	...	...	...	...	...
738.	Vanaspati*	2,500	...	...	...	...	...	...	...	...	...	...	...	...
	MILK AND MILK PRODUCTS													
739.	Milk, cow's	150	15	0·05	0·18	0·1	2	...	...	...	...	...	...	...
740.	Milk, buffalo's	160	...	0·04	0·10	0·1	3	...	...	...	...	...	...	...
741.	Milk, goat's	60	...	0·05	0·12	0·2	2	...	...	...	...	...	...	...
742.	Milk, human	70	...	0·02	0·02	...	3	...	...	...	...	...	...	...
743.	Milk, ass's	...	...	0·06	0·03	0·1	10	...	...	...	...	...	...	...
744.	Curds	102	...	0·05	0·16	0·1	1	...	...	...	...	...	...	...
746.	Skimmed milk, liquid	...	...	...	...	0·1	1	...	...	...	...	...	...	...
747.	Channa (cow's milk)	366	...	0·07	0·02	...	3	...	...	...	...	...	...	...
749.	Cheese	273	...	...	...	...	...	...	...	...	...	...	...	...

*Butter contains about 40 I. U. and Vanaspati about 175 I.U. of Vitamin D per 100 g.

750. Kheer	242	...	0·12	0·35	0·3	3	...	...	...	...	...	...	...
753. "Khoa" (whole cow's milk)	497	...	0·24	0·41	0·4	...	...	...	...	...	...	...	...
754. Skimmed milk powder (cow's milk)	0	0	0·45	1·64	1·0	5	...	...	...	...	...	...	...
755. Whole milk powder (cow's milk)	1,400	...	0·31	1·36	0·8	4	...	...	...	...	...	...	...

MISCELLANEOUS FOODSTUFFS

756. Arecanut	0	5	...	...	...	...	...	...	...	...	...	...	...
757. Bajjar bhang	...	468	1·10	0·56	2·5	0	...	...	...	...	...	...	...
760. Banti	...	...	0·35	0·03	1·8	...	...	...	...	...	...	...	...
762. Betel leaves	0	9,600	0·07	0·03	0·7	5	...	...	...	...	...	...	...
763. Bhangari	...	142	0·83	0·34	4·2	0	...	...	...	...	...	...	...
764. Bhangri ka atta	...	79	0·44	0·12	0·9	0	...	...	...	...	...	...	...
765. Bhilisa of Elo	...	48	1·12	0·30	6·8	0	...	...	...	...	...	...	...
766. Bhoose ka atta	...	47	0·39	0·07	1·0	0	...	...	...	...	...	...	...
768. Bitter gourd, canned	...	74	0·03	0·08	0	27	...	...	...	...	...	...	...
769. Bread, white	...	...	0·07	...	0·7	...	...	...	...	...	...	...	...
770. Bread, brown	...	...	0·21	...	2·5	...	...	...	...	...	...	...	...
771. Bulgar wheat (processed)	...	0	0·74	0·11	4·8	0	...	...	...	...	...	...	...
774. Cereal grain "Kathu"	...	0	...	...	2·5	0	...	...	...	...	...	...	...
775. Cheno	...	...	0·39	0·06	3·7	...	...	...	...	...	...	...	...
776. Cholai or seel	...	...	...	...	3·7	...	...	...	...	...	...	...	...
777. Chookri-ka-atta	...	113	0·15	0·04	2·5	0	...	...	...	...	...	...	...
778. Chookri-ka-patta	...	212	0·21	0·03	2·7	5	...	...	...	...	...	...	...
780. Chukary	...	478	0·01	0	0·3	0	...	...	...	...	...	...	...
781. Coconut, tender	...	...	...	...	...	2	...	...	...	...	...	...	...
782. Coconut water (from 5-month old nuts)	...	0	0·01	0·01	0·1	2	...	...	...	...	...	...	...
783. Coconut water (from 6-month old nuts)	...	0	Trace	Trace	0·1	2	...	...	...	...	...	...	...
784. Coconut water (from 8-month old nuts)	...	0	Trace	Trace	0·3	2	...	...	...	...	...	...	...
785. Coconut water (from 10-month old nuts)	...	0	0·01	Trace	0·1	2	...	...	...	...	...	...	...
786. Coconut water (from 12-month old nuts)	...	0	Trace	0·01	<0·1	1	...	...	...	...	...	...	...

III. Vitamins (*Contd.*)

(per 100 g. edible portion)

Serial No.	Name of foodstuff	Vitamin A value, I.U.	Carotene I.U. Vit. A	Thiamine mg.	Riboflavin mg.	Nicotinic acid, mg.	Vitamin C mg.	Biotin, μg.	Choline, mg.	Folic acid μg.	Inositol, mg.	Pantothenic acid, mg.	Pyridoxine mg.	Vitamin K mg.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
787.	Coconut milk (from 10-month old nuts)	...	0	0·10	0·02	0·7	2	...	...	...	...	...	...	...
788.	Coconut milk (from 12-month old nuts)	...	0	0·06	0·05	0·4	4	...	...	...	...	...	...	...
789.	Coconut kernel (from mature nut)	...	0	0·05	0·10	0·8	1	...	...	...	...	...	...	...
792.	Cod-liver oil*	60,000 to 2 lacs	...	...	...	...	0	...	...	...	...	...	...	...
797.	Deoiled coconut meal	0	0	0·13	0·57	6·0	5	...	...	...	...	...	...	...
799.	Elo	0	25	1·35	0·40	11·4	0	...	...	...	...	...	...	...
803.	Halibut liver oil*	30 lacs	...	...	...	...	...	...	...	...	...	...	...	...
804.	Honey	0	0	0	0·04	0·2	4	...	...	...	...	...	...	...
805.	Jaggery	0	280	0·02	...	1·0	0	...	...	...	...	...	...	...
807.	Kankrol, canned	...	160	0·03	0·07	0·1	67	...	...	...	...	...	...	...
808.	Karela, canned	...	74	0·03	0·08	Trace	27	...	...	...	...	...	...	...
809.	Lamtra	...	106	0·98	0·12	9·8	0	...	...	...	...	...	...	...
811.	Lotus stem, dry	...	0	0·82	1·21	1·9	0	...	...	...	...	...	...	...
813.	Mahua flowers	...	39	0·03	0·88	5·2	7	...	...	...	...	...	...	...
814.	Mango pulp, canned	...	1,400	0·03	0·07	0·1	2	...	...	...	...	...	...	...
815.	Mango slice canned	...	1,310	0·01	0·06	0·1	2	...	...	...	...	...	...	...
816.	"Makhana"	...	Trace	...	...	...	...	...	...	...	...	...	...	...
819.	Neera	...	...	0·02	Trace	Trace	13	...	...	...	...	...	...	...
820.	Pachwai (Assam)	...	0	0·07	0·06	3·0	0	...	...	...	...	...	...	...
822.	"Pappads"	0	Trace	...	...	...	0	...	...	...	...	...	...	...
823.	Parwar, canned	...	150	0·02	0·05	Trace	7	...	...	...	...	...	...	...

826.	Phog flowers, dry (Rajasthan)	...	...	0·25	0·76	...	0	...	...	...	...	...	...	...
827.	Phutka chhattoo (rugroo)	...	310	0·01	0·08	Trace	2	...	...	...	...	...	...	...
830.	Pumpkin seeds	...	76	0·33	0·16	3·1	1	...	...	...	...	...	...	...
831.	Rajakeera seeds	...	0	0·17	0·20	3·6	0	...	...	...	...	...	...	...
832.	Red palm oil	...	40,000 to 50,000	...	...	...	...	...	...	...	...	...	...	...
833.	Rice bran	...	...	2·70	0·48	...	...	...	...	...	...	...	...	...
838.	Sankalu	...	10	0·07	0·08	Trace	11	...	...	...	...	...	...	...
839.	Sawak-ka-chawal	...	...	...	...	0·3	...	...	...	...	...	...	...	...
840.	Sago	...	0	0·01	...	0·2	...	...	...	...	...	...	...	...
842.	Shark liver oil*	2 lacs	...	...	...	...	...	...	...	...	...	...	...	...
847.	Sugar cane juice	...	10	...	0·04	...	...	...	...	...	...	...	...	...
851.	Toddy, coconut, sweet	...	0	0·01	...	...	...	...	...	...	...	...	...	...
852.	Toddy, coconut, fermented	...	0	0·01	...	...	...	...	...	...	...	...	...	...
853.	Toddy, fermented (from shop)	...	0	0·01	...	...	...	...	...	...	...	...	...	...
855.	Yeast, dried (food)	...	...	3·20	...	27·0	...	...	...	...	...	...	...	...
856.	Yeast, dried (Brewer's)	...	110	6·00	4·00	40·0	...	...	...	...	...	...	...	...

*These foods contain vitamin D in amounts indicated below :
Cod liver oil—10,000 I.U. Halibut liver oil 1·2 lacs I.U.
Shark liver oil—10,000 I.U.

APPENDIX I

NUTRITIVE VALUE OF THE PROTEIN IN CERTAIN FOODSTUFFS

Serial No.	Name of foodstuff	Biological value* per cent	Protein efficiency† ratio
1	2	3	4
	CEREALS AND GRAIN PRODUCTS		
1.	Bajra ...	83	1·1
2.	Barley ...	71	...
4.	Cholam ...	83	2·0
5.	Italian millet ...	77	0·8
8.	Maize ...	60	1·0
11.	Ragi ...	89	0·7
13.	Rice, raw, milled ...	80	1·7
29.	Wheat, whole ...	66	1·3
	PULSES AND LEGUMES		
34.	Bengalgram dhal, raw ...	61	1·1
36.	Blackgram ...	63	1·0
39.	Cow gram ...	45	...
40.	Field bean ...	49	...
41.	Green gram ...	54	0·8
43.	Horsegram ...	65	0·7
44.	Khesari dhal ...	47	0·3
45.	Lentil ...	49	0·5
46.	Mothbean ...	54	...
47.	Peas ...	59	1·1
51.	Red gram ...	72	0·7
52.	Soyabean ...	60	0·9
	LEAFY VEGETABLES		
55.	Agathi ...	64	...
56.	Amaranth ...	72	...

* Biological value is per cent of absorbed nitrogen retained when foodstuff indicated is the sole source of nitrogen.

† P.E.R. is the protein efficiency ratio or the gram gain in weight per gram of protein consumed.

Nutritive value of the protein in certain foodstuffs (*Contd.*)

Sl. No.	Name of foodstuff		Biological value* per cent	Protein efficiency† ratio
1	2		3	4
62.	Bathua leaves	...	79	...
75.	Chawli	...	73	...
86.	Drumstick leaves	...	41	...
87.	Fenugreek	...	84	...
96.	Ipomoea leaves	...	67	...
119.	Mayalu	...	70	...
124.	Mustard leaves	...	84	...
136.	Paruppu keerai	...	75	...
144.	Radish tops	...	77	...
145.	Rajakeera leaves	...	86	...
148.	Safflower leaves	...	61	...
156.	Shepu	...	71	...
161.	Spinach	...	87	...
169.	Takla	...	71	...
	ROOTS AND TUBERS			
207.	Potato	...	68	1·9
212.	Sweet potato	...	72	1·5
	OTHER VEGETABLES			
234.	Brinjal	...	71	...
241.	Cluster beans	...	51	...
266.	Ladies fingers	...	82	...
307.	Water chestnut	...	...	1·8
	NUTS AND OIL SEEDS			
309.	Almond	...	51	...
310.	Cashewnut	...	72	...
312.	Coconut	...	77	1·0
314.	Gingelly	...	67	1·0
315.	Groundnut, raw	...	57	...
316.	Groundnt, roasted	...	56	...
318.	Kusumb seeds	...	85	...

Nutritive value of the protein in certain foodstuffs (*Contd.*)

Sl. No.	Name of foodstuff	Biological value* per cent	Protein efficiency† ratio
1	2	3	4
	FISHES		
556.	"Air" ...	75	1·7
586.	Ghol ...	71	...
600.	Katla ...	78	1·8
605.	Koi ...	87	...
607.	Mrigal ...	72	1·7
628.	Prawn ...	67	...
646.	Sarputi ...	82	...
647.	Shark ...	62	...
649.	Seer ...	68	...
653.	Singhi ...	89	1·5
659.	Thread fin ...	68	...
	SUN-DRIED FISHES		
677.	Hilsa, sun-dried ...	74	1·7
	OTHER FLESH FOODS		
695.	Beef muscle ...	69	...
699.	Buffalo meat ...	60	...
702(a).	Egg white (duck), raw ...	61	0·4
704.	Egg, hen ...	95	3·8
705.	Egg yolk ...	...	3·2
711.	Goat meat ...	60	...
	MILK AND MILK PRODUCTS		
739.	Cow's milk, whole ...	82	2·0
740.	Buffalo milk, whole ...	67	2·0
741.	Goat's milk, whole ...	68	1·0
744.	Curds ...	67	2·1
747.	Channa (Cow's milk) ...	67	...
753.	Khoa (whole cow's milk) ...	69	2·3
754.	Skimmed milk powder ...	83	...
	MISCELLANEOUS FOODS		
855.	Yeast (food) ...	32	1·7

APPENDIX II

ESSENTIAL AMINO ACIDS IN INDIAN FOODSTUFFS

Serial No.	Name of foodstuff	Approximate total nitrogen per cent	Essential Amino Acids (Gram per gram nitrogen)									
			Arginine	Histi-dine	Lysine	Trypto-phan	Phenyl-alanine	Cystine	Methio-nine	Threo-nine	Leucine	Isoleu-cine	Valine
	FAO reference protein	...	...	...	0·27	0·09	0·18	0·13	0·14	0·18	0·31	0·27	0·27
	CEREALS AND GRAIN PRODUCTS												
1.	Bajra	1·97	0·47	0·16	0·23	0·09	0·23	...	0·13	0·21	0·58	0·31	0·34
4.	Cholam	1·88	0·39	0·15	0·20	0·03	0·26	0·15	0·14	0·19	0·65	0·30	0·30
5.	Italian millet	1·72	0·44	0·24	0·16	0·05	0·33	...	0·22	0·22	0·87	0·35	0·37
10.	Panivaragu	1·03	0·07	0·03	0·26	0·06	...	...	0·18	0·08	0·84	0·39	0·43
11.	Ragi	1·01	0·24	0·06	0·17	0·08	0·18	0·20	0·23	0·13	0·48	0·27	0·41
12.	Rice, unpolished	1·34	0·72	0·19	0·23	0·06	0·32	0·09	0·18	0·25	0·55	0·38	0·42
15.	Rice, parboiled, milled	0·98	0·50	0·08	0·21	...	0·35	0·08	0·08	0·21	...	...	0·34
22.	Samai	1·76	0·29	0·12	0·11	0·04	0·30	...	0·14	0·21	0·68	0·42	0·38
28.	Varagu	1·08	0·28	0·12	0·20	0·03	0·32	...	0·15	0·20	0·70	0·44	0·42
29.	Wheat	1·72	0·33	0·09	0·14	0·07	0·33	0·14	0·12	0·16	0·41	0·22	0·25
	PULSES AND LEGUMES												
32.	Bengalgram	3·28	0·53	0·22	0·49	0·04	0·25	0·12	0·11	0·21	0·41	0·33	0·28
36.	Blackgram	4·18	0·52	0·36	0·43	0·07	0·31	0·08	0·09	0·22	0·42	0·30	0·31
39.	Cowgram	3·90	0·43	0·19	0·39	0·04	0·33	0·08	0·09	0·20	0·47	0·31	0·39
40.	Field bean	4·01	0·53	0·30	0·43	0·03	0·43	0·08	0·11	0·25	0·55	0·36	0·31
41.	Greengram, whole	3·96	0·50	0·35	0·43	0·04	0·35	0·06	0·10	0·20	0·51	0·35	0·32
43.	Horsegram	3·58	0·53	0·28	0·58	0·07	0·38	0·15	0·07	0·23	0·54	0·37	0·39
44.	Khesari dhal	4·71	0·49	0·36	0·47	0·05	0·17	0·07	0·05	0·15	0·41	0·41	0·25
45.	Lentil	4·33	0·33	0·13	0·38	0·05	0·17	0·05	0·04	0·20	0·37	0·30	0·32
46.	Mothbean	3·92	...	0·21	0·34	0·04	0·28	0·03	0·06	...	0·42	0·31	0·20
47.	Peas, dried	3·15	0·83	0·28	0·98	0·08	0·38	0·04	0·07	0·41	0·65	0·53	0·32

Essential amino acids in Indian foodstuffs (*Contd.*)

Serial No.	Name of foodstuff	Approximate total nitrogen per cent	Essential Amino Acids (Gram per gram nitrogen)										
			Arginine	Histi-dine	Lysine	Trypto-phan	Phenyl-alanine	Cystine	Methio-nine	Threo-nine	Leucine	Isoleu-cine	Valine
	FAO reference protein	...	...	...	0·27	0·09	0·18	0·13	0·14	0·18	0·31	0·27	0·27
51.	Redgram	3·60	0·66	0·31	0·43	0·04	0·49	0·12	0·12	0·23	0·38	0·33	0·27
52.	Soyabean	6·91	...	...	...	...	...	0·13	0·07	...	...	...	...
	LEAFY VEGETABLES												
55.	Agathi	1·34	0·36	0·12	0·25	0·10	0·38	0·09	0·09	0·30	0·56	0·39	0·43
56.	Amaranth	0·64	0·24	0·13	0·25	0·07	0·18	0·04	0·07	0·14	0·37	0·29	0·28
62.	Bathua	0·50	...	...	0·75	<0·01 (0·004)	0·11	...	0·05	0·17	0·41	0·44	0·29
73.	Chekkur manis	1·09	0·36	...	...	...	0·31	0·06	0·08	0·37	...	...	0·23
82.	Colocasia	1·09	0·25	0·13	0·26	0·04	0·18	...	0·06	0·15	0·36	0·31	0·28
86.	Drumstick	1·07	0·37	0·13	0·29	0·12	0·39	0·16	0·13	0·30	0·58	0·39	0·45
87.	Fenugreek	0·66	0·22	0·12	0·25	0·05	0·13	...	0·07	0·15	0·30	0·24	0·25
105.	Knol-khol greens	0·55	...	...	0·54	0·37	0·16	...	0·05	0·13	0·50	0·33	0·31
148.	Safflower leaves	0·40	...	...	0·61	0·01	0·16	...	0·06	0·17	0·70	0·54	0·41
156.	Shepu	0·48	...	...	0·44	0·01	0·09	...	0·02	0·12	0·29	0·35	0·28
161.	Spinach	0·32	...	...	0·78	0·01	0·10	...	0·04	0·16	0·61	0·38	0·31
	ROOTS AND TUBERS												
191.	Colocasia	0·48	0·39	0·11	0·39	0·09	0·33	...	0·06	0·29	0·56	0·33	0·38
207.	Potato	0·26	0·33	0·08	0·42	0·04	0·26	...	0·06	0·24	0·34	0·33	0·31
212.	Sweet potato	0·35	0·27	0·09	0·36	0·06	0·28	...	0·08	0·37	0·42	0·43	0·51
213.	Tapioca	0·16	0·48	0·09	0·39	0·03	0·22	...	0·04	0·24	0·35	0·33	0·23
220.	Yam (elephant)	0·19	0·70	0·10	0·28	0·04	0·39	...	0·06	0·28	0·37	0·31	0·31

	OTHER VEGETABLES												
234.	Brinjal	0·22	0·21	0·11	0·10	0·06	0·27	...	0·06	0·23	0·39	0·32	0·37
257.	Jackfruit	1·06	0·12	0·06	0·30	0·08	0·48	0·09	0·09	0·36	0·50	0·45	0·55
266.	Ladies fingers	0·30	0·16	0·07	0·16	0·04	0·24	0·05	0·08	0·24	0·39	0·26	0·37
283.	Plantain, green	0·22	0·26	0·28	0·35	0·04	0·28	...	0·04	0·17	0·34	0·32	0·28
	NUTS AND OILSEEDS												
310.	Cashewnut	3·39	0·66	0·14	0·14	...	0·28	0·06	0·08	0·18	...	...	0·28
312.	Coconut	1·09	...	...	...	...	...	0·24	0·09	...	...	...	...
314.	Gingelly	2·93	...	...	...	...	...	0·21	0·11	...	...	...	...
315.	Groundnut	4·27	...	...	...	...	...	0·09	0·03	...	...	...	...
318.	Kusumb seeds	2·16	0·82	0·63	0·34	...	0·30	0·34	0·41	1·41	...	0·82	0·28
321.	Niger seed	3·82	0·68	...	0·26	...	0·20	0·09	0·09	0·18	0·29	0·12	0·13
	FRUITS												
365.	Banana, green variety	0·13	0·38	0·52	0·36	...	0·15	0·11	...	...	...	...	...
371.	Banana, Rasthali	0·18	0·33	0·44	0·41	...	0·30	0·14	...	...	...	...	...
422.	"Korukkapalli"	0·43	...	...	1·54	0·22	0·36	...	...	...	...	...	1·24
	FISHES												
571.	Boal	2·46	0·31	0·71	0·23	...	...	0·44	0·56	...	...	...	...
573.	Cat fish	3·42	0·04	...	0·06	...	...	...	0·03	...	...	...	...
586.	Ghol	2·94	0·04	...	0·06	...	...	...	0·03	...	...	...	...
590.	Hilsa	3·49	0·04	...	0·06	...	...	...	0·03	...	...	...	...
598.	Kalabasu	2·35	0·04	0·10	0·48	...	...	0·33	0·21	...	...	...	...
609.	Lata	3·10	0·40	0·84	0·43	...	...	0·39	0·53	...	...	...	...
610.	Lobster	3·50	0·45	0·08	1·10	0·01	0·17	0·09	0·14	0·33	0·71	0·27	0·18
618.	Mullet	3·06	0·41	0·12	...	0·03	0·26	0·03	0·28	0·44	0·71	0·37	0·34
626.	Pomfret	3·06	0·38	0·11	...	0·04	0·22	0·08	0·19	0·43	0·67	0·33	0·31
631.	Prawns	3·12	0·52	0·10	1·16	0·03	0·29	0·09	0·29	0·29	0·89	0·35	0·26
643.	Sakchi	2·67	0·33	0·11	1·22	0·04	0·17	0·06	0·10	0·29	0·78	0·33	0·22
647.	Shark	3·47	0·33	0·11	1·03	0·05	0·23	0·06	0·13	0·34	0·49	0·34	0·27
	MILK AND MILK PRODUCTS												
739.	Milk, cow's	0·51	0·19	0·12	0·55	0·08	0·21	...	0·15	0·32	0·55	0·22	0·38

Essential amino acids in Indian foodstuffs (*Contd.*)

Serial No.	Name of foodstuff	Approximate total nitrogen per cent	Essential Amino Acids (Gram per gram nitrogen)										
			Arginine	Histi-dine	Lysine	Trypto-phan	Phenyl-alanine	Cystine	Methio-nine	Threo-nine	Leucine	Isoleu-cine	Valine
	FAO reference protein	...	...	...	0·27	0·09	0·18	0·13	0·14	0·18	0·31	0·27	0·27
740.	Milk, buffalo's	0·62	0·20	0·17	0·47	0·09	0·27	0·10	0·17	0·32	0·62	0·31	0·38
741.	Milk, goat's	0·57	0·33	0·13	0·59	0·08	0·23	...	0·13	0·41	0·53	0·16	0·26
742.	Milk, human	0·20	0·28	0·06	0·27	0·06	0·14	0·12	0·12	0·26	0·56	0·24	0·29
743.	Milk, ass's	0·37	0·23	0·09	0·49	0·15	0·13	...	0·24	0·31	0·[illegible]6	0·22	0·29
744.	Curds	0·50	0·09	0·12	0·36	0·08	0·19	...	0·11	0·37	0·64	0·20	0·39
753.	Khoa	3·22	0·19	0·13	0·36	0·08	0·21	...	0·14	0·31	0·62	0·20	0·38
	MISCELLANEOUS FOODSTUFFS												
760.	Banti	1·33	...	...	0·18	0·01	0·13	...	0·12	0·14	1·04	0·55	0·40
775.	Cheno	1·36	...	...	0·22	0·02	0·16	...	0·12	0·18	1·11	0·75	0·49
831.	Rajakeera seeds	1·98	0·93	0·18	0·51	0·06	0·31	...	0·13	0·38	0·44	0·32	0·30

NOTE :—1. The figures for amino-acids reported on the basis of work carried out in India only have been included in the above compilation.

2. The "FAO-Reference Protein" is a hypothetical protein with a biologically ideal pattern of amino acid distribution ; the relative deficits in amino-acids in other food proteins compared to this reference protein determine the nutritive value of the food proteins.

Since phenylalanine can be replaced to a certain extent by tyrosine and methionine by cystine in nutrition, the following figures have been suggested for these amino-acids in the "FAO-Reference Protein".

Phenylalanine—0·18 g. per g. nitrogen ; Tyrosine—0·18 g. per g. nitrogen ;
Cystine —0·13 g. per g. nitrogen ; Methionine—0·14 g. per g. nitrogen ;
Total sulphur amino acids—0·27 g. per g. nitrogen.

Therefore, before classifying a food protein as deficient in phenylalanine, the tyrosine content has to be taken into account ; similarly, the sum of cystine and methionine content has to be considered before classifying the protein as methionine or cystine deficient.

3. In general, cereal proteins are deficient in lysine and tryptophan, pulses in methionine and tryptophan and leafy vegetables in methionine. Mutual supplementation among vegetable protein foods, like cereals, pulses and leafy vegetables or even among a mixture of cereals has been reported. The proteins of whole egg have an ideal distribution of amino-acids.

APPENDIX III

APPROXIMATE CONTENT OF POLY-UNSATURATED FATTY ACIDS IN CERTAIN EDIBLE INDIAN OILS AND FATS

No.	Fat	Acid gms. per cent
1.	Butterfat (ghee)	2
2.	Coconut oil	3
3.	Cottonseed oil	50
4.	Groundnut oil	28
5.	Maize oil (corn oil)	51
6.	Mustard oil	20
7.	Safflower oil (Kusuma oil)	75
8.	Sesame (Gingelly) oil	45
9.	Vanaspati	6

APPENDIX

NAMES OF FOODSTUFFS

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
						CEREALS AND
1.	Bajra	Pennisetum typhoideum	Bajra	Cambu	Gantelu	...
2.	Barley	Hordeum Vulgare L.	Jau	Barli arisi	Barli biyyam	...
3.	Barley, wild	-do-	...	...	...	...
4.	Cholam	Sorghum vulgare	Juar, janera	Cholam	Jonnalu	Jola
5.	Italian millet	Setaria italica	Kangri	Thenai	Korralu	...
6.	"Kootu"	Fagopyrum esculentum	...	...	...	...
7.	Maize, tender	Zea mays	Makai, Makka	Makka cholam	Mokka jonnalu	Yele musikinu jolu
8.	Maize, dry	-do-	-do-	-do-	Mekka jonnalu	Vonugida musikinu; jolu
9.	Oatmeal	Avena sterilis	Jai	...	...	...
10.	Panivaragu	Panicum miliaceum	Chinna	Panivaragu	...	...
11.	Ragi	Eleusine coracana	Mundal ; okra	Ragi	Ragulu, chollu	Ragi

IV

IN INDIAN LANGUAGES

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
GRAINS PRODUCTS						
Bajra	Bajri	Bajra	Bajri	Kamboo	Baajr'u	Spiked millet ; Pearl millet
Jaba dhana	Juv	Job	Jau	Yavam	Wushku'	Joh, Jaon
...	...	...	...	...	...	...
Janha	Jwari	Juar	Juar	Cholam	...	Red jowar; Milo; jowar ; Chari ; Holcus sorghum; Andropogon sorghum
...	Rala	Syama dhan ; Kangni	Ral Kang	Thina	Shol	Foxtail millet ; Moha millet ; Kaon ; Kakan kora
...	Kuttu	...	...	Kootu	...	Buckwheat
Kancha maka	Muka	Kacha bhutta	Makai	Pathamulla (ilam) cholam	...	Makki ; Bhutta
Sukhila maka	-do-	Sukna paka bhutta	Makai	Unakku cholam	Makaa'y	
...	...	Jai	...	Oat mavu	...	Avena byzantina ; Javi
...	Ghoti-sanja	China ; Cheena	...	Panivaragu	Pingu'	Proso millet; French millet ; Vari ; Broom corn millet
Mandia	Nachni	...	Ragi, Bhav	Moothari	...	Finger millet ; Makra ; Korakan; Marua

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
12.	Rice, raw home pounded	Oryza sativa	Arwa chawal	Kaikuthu pachai arisi	Dampudu pachi biyyam	Kotnuda akki
13.	Rice, raw milled	Oryza sativa	Arwa chawal	Pachai mill arisi	Pachi mara biyyam	...
14.	Rice, par boiled home pounded	-do-	Usna chawal	Kaikuthu puzhungal arisi	Dampudu uppudu biyyam	Kotnuda kusu balakki
15.	Rice, par boiled milled	-do-	-do-	Mill puzhungal arisi	Mara uppudu biyyam	...
16.	Rice, raw unmilled (prepared in wooden grinder)	-do-	...	Pachai arisi (mara yandiram)	Che biyyam pachi	...
17.	Rice, white puttu	-do-	...	Vellai puttu arisi	Thella biyyam	...
18.	Rice ; black puttu	-do-	...	Karuppu puttu arisi	Nalla biyyam	...
19.	Rice bran	-do-	...	Arisi thavidu	...	...
20.	Rice flakes	-do-	Chowla	Arisi aval	Atukulu	Avalukki
21.	Rice, puffed	-do-	Murmura	Arisi pori	Murmuralu	Puri
22.	Samai	Panicum miliare	Kutki ; Sanwali	Samai	...	Semai
23.	Sanwa millet	Echinocloa colona Link var frumantacea	Sawan Shama	Kudirai valu	Pedda wundu	...
24.	Suji	Triticum aestivum	Sooji	Ravai	Rawa	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Dhinkikuta arua chaula	Tandool	Atap chowl (Dheki chhata)	Hatna chhandela chokah	Pacchari (veetil kuthiyathu)	...	Dhan
Kalakuta arua chaula	Tandool sudlela	Atap chowl kolchhata	Chokha	Pachari, millil kuthiyathu	Tomu'l ...	... ...
Dhinki-kuta usuna chaula	Tandool ukda	Siddha chowl (Dheki chhata)	Ukadello chokha	Puzhungal ari veetil kuthiyathu	...	...
Kalakuta usuna chaula	Tandool ukda sudlela	Siddha chowl (Kolchhata)	...	Puzhungal ari (millil kuthiyathu)	...	...
Akhyata chaula	...	Atap chowl (Dheki chhata)	...	...	...	...
...	...	...	...	Velutha puttari	Pro'n	...
...	...	...	...	Karutha puttari	...	...
...	...	...	...	...	...	...
Chuda	Pohe	Chaler khood	Pohva	Avil	...	...
Mudhi	Murmure	Muri	Mumra	Pori	...	...
Suan	Sava	Kangni	...	Chama	Ganu haar	Little millet ; goudli ; Gondola; Kutki; P. colonum;
Suan	Shamula	China	Sawo	Sanwa thina	...	Sawan millet ; Panicum frumentaceum ; E. frumentacea
...	...	...	...	...	...	Broken wheat

Names of Foodstuffs in

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
25.	Talipot flour, untreated	Caryota urens	...	Coonda panai	Mharmadi	...
26.	Talipot flour, treated	-do-	...	-do-	-do-	...
27.	Vermicelli	Triticum aestivum	Siwain	Semiya	Semiya	Shavige
28.	Varagu	Paspalum scorbiculatum L.	Kondon, Kodra	Varagu	Variga	...
29.	Wheat, whole	Triticum aestivum	Gehum	Godumai	Godhumalu	Godhi
30.	Wheat flour (whole) atta	Triticum aestivum	Gehum	Muzhu godumai ma	Godhum pindi	Godhi hittu
31.	Wheat flour (refined) maida	-do-	Maida	Maida mavu	Maidha pindi	Maida

PULSES AND

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
32.	Bengal gram, whole	Cicer arietinum	Chana	Muzhu kadalai	Sanagalu	Kadale
33.	Bengal gram roasted, dehusked	-do-	Bhuna chana	Pottukadalai (pottu neeki)	Putnalu pappu	Huri kadale
34.	Bengal gram dhal	-do-	Chana ki dhal	Kadalai paruppu	Pacha sanaga pappu	Kadale bele
35.	Bhetmas	Glycine hispida	Bhatwans	...	...	...
36.	Black gram dhal	Phaseolus mungo L.	Urd dhal	Ulutham paruppu	Minapa pappu	Udini bele
37.	Chavli small	Vigna sinensis	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	Tad	...	Shivajata	Kudappana mavu	...	...
...	do-	...	...	-do-	...	...
Simai	Shevaya	Sewai	...	Semiya	...	...
...	Harik	Kodoadhan	Kodra	Varogu (Kodu), thina	...	Pakodi ; Mana kodra
Gahama	Gahu	Gom asta	Ghau	Muzhu gothambu	Ku'nu'kh	T. sativum ; T. vulgare ; T. hybernum ; T. pilosum ; kank
Atta	Gahu kuneek	Atta (Jata-bhanga)	Ato	Gothambu mavu	...	...
Maida	-do-	Maida	...	Sudhicheytha gothambu mavu American mavu	...	...
LEGUMES						
Buta	Hurbura	Chola (Gota)	Chana	Kadala	Chanu'	Kothukadalai ; Chickpea ; Garbanzo
Bhaja bura	Futana	Bhaja boot (chhatu)	Futana	Varutha kadala	...	Vepudu sanaga pappu
...	...	...	...	...	...	...
...	...	...	...	Bhetmas	...	...
Biri	Uddachi dhal	Mashkalai (Chhata) ; Kalai	Aalad	Uzhunnu	Maha	Urid
...	Chavli	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
38.	Chavli big	Vigna Sinensis	...	...	...	...
39.	Cowgram	Vigna catiang	Lobia bada	Karamani ; Thattai payir	Alachandalu	Thadaguni
40.	Field bean, dry	Dolichos lablab	Val	Mochai	Adavichik-kudu	Avare
41.	Greengram, whole	Phaseolus aureus, Roxb.	Mung	Pachai-payaru ; Pasippayir	Pesalu	Hesaru kalu
42.	Greengram dhal	-do-	Mung dhal	Pasi-paruppu; Payattham paruppu	Pesara pappu	Hesara bele
43.	Horsegram	Dolichos biflorus	Kulthi	Kollu	Ulavalu	Huruli
44.	Khesari dhal	Lathyrus sativus	Lang dhal	Vattu-paruppu ; Khesari paruppu	Lamka pappu	...
45.	Lentil	Lens culinaris Medic	Masur dhal	Mysore paruppu	Misur pappu	Masur bele
46.	Moth beans	Phaseolus aconitifolius Jacq.	...	Narippayir	...	...
47.	Peas, dried	Pisum sativum	Bada mattar	Pattani	Endu batani	Vona batani
48.	Peas, roasted	-do-	Bhuna mattar	Varutha pattani	Vepudu batani	Hurida batani
49.	"Rajmah"	...	Fransbean	...	...	...
50.	"Rawan"	Vijna sinensis	Lobhia	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	Chavli	...	...	...	...	...
Chani	Kuleeth	Barbati	...	Payar	...	Flat-gram ; Cowpea ; Ghanghra
Baragudi	Walpapdi	Sukna sim	Walpapdi	Mochhak-kotta	...	Kaduwal
Muga	Mung	Mug	Mag	Cheru-payaru	Muang	Phaseolus radiatus ; Phaseolus mungoauctnon L.
...	...	...	...	...	...	...
Kolatha	Kuleeth	Kulthi kalai	Kuleeth	Muthira	...	Kulat Kurthi sattoo (flour)
Khesari	Lakh dal	Khesari	Lakh ; Lang	Khesari	...	...
Masura	Masur	Masuri	Masur	Masura payaru	Musur	Eruvum lens, Lens esculenta ; Masur mah
...	Matki	...	...	...	...	Foxgram ; Aconite bean ; P. trilobus ; Dolichos dissectus; Dew gram; Kheri
Matara	Vatana	Sukna matar	Vatana	Pattani payaru unangiyathu	Kara'	Mator ; Kabli matar
Bhaja matara	...	Bhaja matar	-do-	Pattani payaru varuthathu	...	...
...	...	Barbati	...	Rajmah	Raazmaha	...
Suji	Chawali	Barbati sim	Chola	Rawan	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
51.	Redgram	Cajanus cajan	Arhar dhal	Tuvaram paruppu	Kandi pappu	Thugare bele
52.	Soya bean	Glycine max. Merr.	Bhat	...	...	...
53.	Sutari	Phaseolus calcaratus	...	...	...	...
						LEAFY
54.	Agast-ka-phool	Sesbania egyptica	...	...	...	...
55.	Agathi	Sesbania grandiflora	Agasti ; Jaint	Agathi	Avesi	Agase
56.	Amaranth	Amarantus tricolor	Lalchoalai ; Lal sag	Mulai keerai	Thota koora	Yele dantu
57.	Amaranth spined	Amarantus spinosus	Kantewali ; Choalai ; Kanta gendhari sag	...	Mulla thota koora	Mulla dantu
58.	Ambat chuka	Rumex vesicarius	...	Chuka keerai	Chuka koora	...
59.	Arai keerai	Amarantus tristis	...	Arai keerai	...	...
60.	Bakala, green	Vicia faba	...	...	...	...
61.	Bamboo, tender shoots	Bambusa bambos	Bans	Moongil kuruthu	Veduru chiguru	...
62.	Bathua leaves	Chenopodium album	...	...	...	Sakothin soppu

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Harada	Toor	Arhar dal	Tur ; Tuver	Thuvara	Arhar	C. indicus ; Pigeon pea
...	Soya	Gari kalai	Soya	Soya been	...	G. soya ; Soja hispida ; Dolichos soja ;
...	...	...	...	...	...	Inferior gram
VEGETABLE						
...	...	...	...	...	...	...
Agasti saga	Agasti	Baugful	Agathio	Agathi	...	Agatigrandiflora ; Robinia grandiflora ; Bak agashi ; Agasta
...	...	...	...	...	...	A. melancholicus; A. gangeticus ; Lal sak ; Gogta sag
Kanta neutia saga	Kate math	Kanta nate	Kante medant ; Kantalo dabho	Mullan, cheru cheera	...	Prickly amaranth ; Thorny 'pigweed
...	Ambat chuka	...	...	...	O'buj	Khatti palak : Chuka palaug ; Sorrel
...	...	...	...	...	...	...
...	...	...	...	...	...	Broad bean ; Faba vulgaris
Karadi Baunsa gaja	Kalki pan	Bansh ankur bana	Vasasni kupal	Mulaiyin elam koombugal	...	Bambusa arundinacea ; Arundo bambos
Bathua saga	Chandan bathua	Beto sag	Chilni bhaji	Bathua elakal	...	Chakvat ; Common pigweed

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
63.	Beet greens	Beta vulgaris	...	Beet keerai	...	...
64.	Bengal gram leaves	Cicer arietinum	Sag chana	Kadalai ilaigal	Sanaga aku	Kadale soppu
65.	Bottle gourd leaves	Lagenaria vulgaris	Lauka sag	Surai ilaigal	...	...
66.	Brussels sprouts	Brassica oleracea gemmifera	Choke ; gobee	...	...	Mara kosu
67.	Cabbage	Brassica oleracea capitata	Band gobee	Mutta cose Kose keerai	Goskura	Matle kosu
68.	Carrot leaves	Daucus carota	Sag gajar	Manjal mullangi keerai ; Carrot keerai	Gajjara aku	Gajari soppu
69.	Cauliflower greens	Brassica oleracea botrytis	Gobhi sag	Cauliflower ilaigal	... ...	... ...
70.	Celery leaves	Apium graveolens var dulce	Ajwan ka patta	...	...	...
71.	Ceylon pasali	Talinum Triangu lare	...	Ceylon pasalai	... ...	... ...
72.	Chakra varthi keerai	Amarantus sp.	...	Chakravarthi keerai	...	...
73.	Chekkur manis	Sauropus androgynans	...	...	...	...
74.	Chimti sag	Polygonum plebijum R. Br.	...	...	...	...
75.	Chowli	Vigna catiang	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	Chakundar
Chana saga	Hurbhura pan	Chola sag	Chanana pan	Kadala elakal	...	...
...	...	...	...	...	...	L. leucantha ; L. siceraria ; Cucurbita siceraria ; Kaddu ; Ghia kaddu
Chhota bandha kobi	...	Bilati bandha kopee	...	Brussels goves	Haa'kh	...
Bandha kopee	Kobi	Bhandha kopee	Kobi	Mutta gose	Band-goobee	B. oleracea bullata
Gajara patra	Gajar pan	Gajar sag;	Gajarna pan	Karat elakal	...	...
...	...	...	...	...	...	B. cauliflora ; B. botrytis
Juani patra	...	Randhuni sag, chanu	Ajmana pan (Ajmo)	Sellary	...	A. dulce ; A. celleri ; Trachispermum stictocarpum
...	...	...	...	...	...	...
...	...	...	...	..	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	Chowli	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
76.	Chozhi keerai	...	...	Chozhi keerai	...	...
77.	"Colombo keera"	...	...	Kozhambu keerai	...	...
78.	Colocasia-black variety	Colocasia antiquorum	...	Seppam ilaigal	... ...	... ...
79.	Colocasia-green variety	-do-	...	-do-	...	...
80.	Colocasia-black variety-stem	-do-	...	Seppam thandu	...	...
81.	Colocasia-green variety stem	Colocasia antiquorum	...	Seppam thandu	...	...
82.	Colocasia-green, leaves and stem	-do-	...	Seppam elam thandum ilaigalum	...	...
83.	Colocasia leaves, dried	-do-	Saro sag (lupu)	Seppam ilaigal, ularndadu	...	...
84.	Coriander leaves	Coriandrum sativum	Dhania	Kothamalli	Kottimiri	Kotham bari
85.	Curry leaves	Murraya koenigii	Gandhela	Karu veppilai	Karive paku	Karibevu
86.	Drumstick leaves	Moringa oleifera	Sajjan	Murungai ilaigal	Mulaga aku	Murige
87.	Fenugreek	Trigonella foenum graecum	Methi sag	Venthia keerai	Menti koora	Menthe soppu
88.	Fetid cassia	Cassia tora	...	...	...	...
89.	Fetid cassia, dried	-do-	...	...	...	...
90.	Garden cress	Lepidium sativum	Halim	Alivirai	Adityalu	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	Alu	...	...	...	...	...
...	-do-	...	...	...	...	...
...	-do-	...	...	...	...	...
...	Alu	...	...	...	...	...
...	-do-	...	...	...	...	Alti ; Arwi sag
...	-do-	...	...	...	...	...
Dhania	Kothimbir	Dhane sag	Kothmer ; Dhana	Kothamalli	Daaniwal	...
Bhrusunga patra	Kadhi limb	Bursunga	Mitha-limbdo	Karivepila	...	Chalcas koenigi
Sajana saga	Shevuga pan	Sajina sag	Saragwani sheng	Muringa ela		M. pterygosperma ; Horse-radish ; Soonja ; Suhanajna
Methi saga	Methi	Methi sag	Methi	Uluva	Methi	...
...	...	...	...	...	...	Chakwar ; Chakonda sag
...	...	...	...	...	...	-do-
...	Ahaliv	Halim (Chandrasura)	Asalio	...	...	... ...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
91.	Garden sorrel, sepals	...	...	...	...	...
92.	Giria sag (Moras)	Suaeda nudiflora	Giria sag	...	...	...
93.	Gogu	Hibiscus sabdariffa	Patwa ; Palsan	Pulichchai keerai	Gogu ; Gonkura	...
94.	Gulcharni	Calonyctions muricatum	...	...	...	...
95.	Gram leaves	Cicer arietinum	...	Kadalai ilaigal	Sanaga aku	Kadale soppu
96.	Ipomoea leaves	Ipomoea reptans	...	...	...	...
97.	Jute plant	Corchorus olitorius	Patua sag	...	...	...
98.	Kasini keerai	Raphanus var.	...	Kasini keerai	...	...
99.	Kalavan keerai (Mixture of various greens)	...	...	Kalavan keerai	...	...
100.	Karsnanganni keerai (white)	...	...	Karsnang-anni keerai	...	...
101.	Karsnanganni keerai (yellow)	...	...	-do-	... ...	... ...
102.	Katha sag	Dentella repens	Katha sag	...	...	...
103.	Kena sag	Commelina bengalensis	Kena sag	...	...	...
104.	Khesari leaves	Lathyrus sativus	Khesari ka sag	...	...	...
105.	Knol-khol greens	Brassica oleracea caulorapa	Ganth gobee	Knol-khol keerai	... ...	... ...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Nalite saga	Ambadi	Mesta (Patwa)	...	Gogu	...	Kudrum sag ; Roselle leaves ; Red sorrel ; Jamaica sorrel ; Kerai ; Chukair
...	...	...	...	...	...	...
Anabana saga	...	Chola sag	Chanana pan	Payarilakal	...	...
Kandamula saga	Nalichi bhaji	Kalmi sag	...	Ippomia	...	..
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Water fern
...	...	...	...	...	...	...
Khesari saga	...	Khesari sag	...	Khesari elakal	...	Grass pea ; Lakkodi ; Charal
...	...	...	...	...	...	B. oleracea var gongylodes

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
106.	Koila karha sag	Asteracantha longifolia Nes.	...	...	...	...
107.	Konar sag	Bauhinia purpurea	...	...	...	...
108.	Koya keerai	Amarantus sp.	...	Koya keerai	...	...
109.	Kulfa	...	Kulfa ka sag	...	...	...
110.	Kuppa meni	Acalypha indica	...	Kuppa meni keerai	...	...
111.	Kuppa-keerai	Amarantus viridis	...	Kuppak-keerai	...	...
112.	Lettuce	Lactuca sativa	Salad	...	...	...
113.	Lettuce tree leaves, tender	Pisonia alba	...	...	...	...
114.	Lettuce tree leaves, mature	-do-	...	...	...	...
115.	Love-lies-bleeding	Amarantus caudatus	Gendhri sag	...	...	...
116.	Manal keerai	Mollugo	Manal keerai	...	...	...
117.	"Manathakkali"	Solanum nigrum	Makoy	Manatha-kkali	Kamanchi chettu	Ganika
118.	Mata sag	Antidesma diandrum	...	...	...	...
119.	Mayalu	Basella rubra	...	...	Batsalla	...
120.	Minmini keerai	...	Minmini keerai	...	...	...
121.	Mint	Mentha spicata	Paudina	Pothina	Pothina	Pudina
122.	Modakathan keerai	Cardiospermum helicacabrum	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Leteus saga	...	Salad pata	Salat	Uvar cheera	Salaa'd	...
...	...	Kachi salad pata	...	...	...	...
...	...	Paka salad pata	...	...	...	...
...	...	...	...	...	...	A. paniculatus ; A. frument
...	...	...	...	...	...	...
...	...	Kakamachi ; Mako	Piludi	Manatha-kkali	...	Black night shade : Makoi ; Gurkhi
...	...	...	...	...	...	...
...	...	...	...	...	...	Indian red spinach ; Poi
...	...	...	...	...	...	...
Podana patra	Pudeena	Pudina sag	Fudina	Mint	Pudynu	Mentha longifolia ; M. piperita ; M. sylvestris ; M. viridis
...	...	...	...	...	...	...

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
123.	Mukarratai	Boerhavia repens	...	...	...	...
124.	Mustard leaves	Brassica campestris var. sarson	Sag sarson	...	...	...
125.	Nachu kottai keerai	...	...	...	...	...
126.	Neem, mature	Azadirachta indica	...	Veppa ilai	Vepa	Balita bevu
127.	Neem, tender	Azadirachta indica	...	Veppam kolunthu	Latha vepa	Vel bevu
128.	Nerringi	Tribulus terrestris	...	...	...	...
129.	Nisorha ka phool	Cordia myxa, L.	...	...	...	...
130.	Onion tops	Allium cepa	Piyaz ka patti	...	...	...
131.	Pacharisi keerai	Euphorbia hirta	...	Pacharisi keerai	...	...
132.	Panna keerai	Celoria	...	...	...	...
133.	Parsley	Petroselinum crispum	...	...	...	...
134.	Parwar sag	Trichosanthes dioica	...	...	...	...
135.	Patua sag	Corchorus capsularia, L.	...	...	...	...
136.	Paruppu keerai	Portulaca oleracea	Chiura sag	Paruppu keerai	...	...
137.	Pasarai keerai	Portulaca sp.	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	Field mustard ; Sharisha ; Rai ; B. juncea
...	...	...	...	...	...	...
Nima patra	Kodu limb	Paka neem pata	Limdo	Arya veppila, moothathu	...	...
Nima kadha	...	Kachi neem pata	...	Arya veppila, elam	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Kotham belari	...	Apium petroselinum ; A. crispum ; P. sativum ; P. hortense ; P. vulgare
...	...	...	...	...	...	Potol ; Palwal ; Parwal
...	...	...	...	...	...	...
...	Ghol	...	...	...	...	Purslane ; Kulfa ; Bara laniya
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
138.	Ponnanganni	Alternanthera amoena	...	Ponnanganni	...	...
139.	Potato leaves	Solanum tuberosum	Alu sag	...	...	...
140.	Puliara keerai	...	...	...	...	...
141.	Pumpkin leaves	Cucurbita maxima	Kohra ka sag	...	...	...
142.	Pumpkin flowers	-do-	Kohra ka phool	...	...	...
143.	Punnaku keerai	Corchorus acutangulus	Punnaku keerai	...	...	...
144.	Radish tops	Raphanus sativus	Muli sag	Mullangi ilaigal	...	...
145.	Rajagira leaves	Amarantus paniculatus	...	Raja keerai	...	...
146.	Rape leaves	Brassica napus	Sag sarsoon	...	...	...
147.	Rape leaves, dried	...	Sariso sag (lupu)	...	...	...
148.	Safflower leaves	Carthamus tinctorius	Kardai	Sendurkam	Kusumbha	...
149.	Sanhemp flower	Crotolaria juncea	Sanai-ka-phool	...	...	...
150.	Saranti sag	Alternanthera sessilis	...	...	...	...
151.	Saravallai keerai	Trianthena monogyna	Khapra sag nakligat-purna	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Madarang	...	Khanchari	...	Ponnan-ganni	...	A. sessilis amoena ; Telanthera amoena ; Khane hari, Nada rang
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	C. moschata
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Shorisa saga	...	Sarisa sag	Sarsiyu	Mundiri elakal	...	...
...	...	...	...	...	...	...
...	Kusumba	Kusumphal ; kajireh	Kusumbo	Kusumbha poorilkal	...	False saffron ; Jafron ; Kardi ; Kardai
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Horse purslane

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
152.	Sarli sag	Vangueria spinosa	...	...	...	...
153.	-do- (lupu) dried	-do-	...	...	...	...
154.	Seemai ponnanganni	Alternanthera	...	...	...	...
155.	Silk cotton flowers	Bombax malabaricum	Semal ka phool	...	...	...
156.	Shepu	Peucedanum graveolens	...	...	...	...
157.	Sinduar sag (cultivated)	Celosia argentea	...	...	...	...
158.	-do- wild	Allmania nodiflora	...	...	...	...
159.	Sirukeerai	Amarantus polygonoides	...	Siru keerai	...	...
160.	Sonchal sag	Malva parviflora	...	...	...	...
161.	Spinach	Spinacea oleracea	Palak	Pasalai keerai ; Kothu pasalai	Dumpa bucchale	...
162.	Soya leaves	Glycine max. Merr	Soya sag	...	...	...
163.	Sowa sag	Peucedanum sowa	...	...	...	...
164.	Susni sag	Marsilia quadrifoliata	...	Aara keerai	...	...
165.	Sweet potato greens	Ipomoea batatas	...	...	...	...
166.	Table radish leaves	Raphanus sativus	...	...	...	...
167.	Tamarind leaves, tender	Tamarindus indicus	Imli (lupu)	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	..	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Palanga saga	Palak	Palang sag	Palak	Vasala-cheera	Paalakh	...
Soya patra	...	Gouri kalai sag	...	Soya elakal	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Water fern
...	...	...	...	...	...	Convolvulus batatas
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
168.	Tamarind shoots, tender, dried	-do-	...	...	...	...
169.	Takla	...	...	...	...	...
170.	Thuthi keerai	...	...	Thuthi keerai	...	...
171.	Thooduvalai keerai	Solanum sp.	...	Thooduvalai keerai	...	...
172.	Turnip greens	Brassica rapa	...	...	...	...
173.	Utarba	...	...	...	...	...
174.	Vadhanarayanan keerai	...	...	Vadhanarayanan keerai	...	...
175.	Veethi keerai	Cadalia indica	...	Veethi keerai	...	...
176.	Velai keerai	Hydrolea	...	...	...	...
177.	Vella keerai	Cleome viscosa	Belaigori sag	...	...	...
178.	Vellari keerai	...	...	Vellari keerai	...	...
179.	Watercress	Nasturtium officinale	...	...	...	...
180.	Waterlily flowers	Nymphea lotus	Bhent ka phool	...	...	...

ROOTS AND

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
181.	"Arwa gadda"	...	...	...	...	...
182.	Banana rhizome	Musa paradisiaca L.	...	...	...	...
183.	Beet root	Beta vulgaris	Chequandar	...	...	...
184.	Bokwa	Dioscorea pentaphylla	...	...	...	...
185.	Bola	Dioscorea bulbifera	Kadu kand	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Shalghum
...	...	...	...	...	...	Jirhool-ka-phool
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Wild mustard leaves
...	...	...	...	...	...	...
Brahmi sag	...	Halim	...	...	...	...
...	...	...	...	...	...	...
TUBERS						
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Bita	Beet	Beet	Beet	Beet root	...	...
...	...	...	...	...	...	Kulu
...	...	...	...	...	...	Pisika

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
186.	Budhia	Melothria heterophylla	...	...	...	...
187.	Canna, edible	Canna edulis	...	...	...	...
188.	Carrot	Daucus carota	Gajar	Manjal mullangi	Pechcha mullangi	...
189.	Chumbia	Dioscorea hamiltonii	...	...	...	...
190.	Churkiyan baiyang	Dioscorea glabra	...	...	...	...
191.	Colocasia	Colocasia esculenta	Arwi	Seppan kizhangu	Chama dumpa	Keshave
192.	Epedong sanga	Peucedanum nagpurensis prasin	...	...	...	...
193.	Goti gadda	...	...	...	...	Goti gadde
194.	Jipoo sanga	Habenaria cammelinifolia, Wall	...	...	...	...
195.	Kapu sanga	Dioscorea sativa L.	...	...	..	...
196.	Khamealu	Dioscorea alata var. globosa	...	...	...	..
197.	Lotus root	Nelumbium nelumbo	...	...	...	...
198.	Mango ginger	Curcuma amada	...	...	...	...
199.	Moor sanga dhak	Butea frondosa	...	...	...	...
200.	Murum sanga	Dioscorea spinosa, Roxb	...	...	...	...
201.	"Nulu gadda"	...	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Gajara	Gajar	Gajar	Gajar	Karat	Gaazur	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Saru	Alu kanda	Kachu (Kalo kachu ; Mankachu)	Alvi	Chembu	...	C. antiquorum ; Arum colocasia ; Kachalu ; Ghunia ; Taro
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Sweet ginger
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
202.	Ochen sanga	Momordica cochinchinensis	...	...	...	...
203.	"Onthalai gasu"	Discorea alata	Goamunda-kam ; Lataru bia	...	Gunapen-dalum	...
204.	Onion, big	Allium cepa	Pyaz, bada	Periya vengayam	Pedda nirulli	Dodda erulli
205.	Onion, small	-do-	Pyaz, chota	Chinna vengayam	Chinna nirulli	Chikka erulli
206.	Parsnip	Pastinaca sativa	...	...	...	...
207.	Potato	Solanum tuberosum	Alu	Urulai Kizhangu	Urula gaddah : Alu gaddalu	Urula gadda
208.	Radish, white	Raphanus sativus	Muli	Vellai mullangi	Thella mullangi	Bili mullangi
209.	Radish, pink	-do-	Muli (lal)	Sivappu mullangi	Erra mullangi	Kempu mullangi
210.	Radish, rat-tailed	Raphanus sativus, Var. caudatus	...	...	...	...
211.	Song	Dioscorea anguiera	...	...	...	...
212.	Sweet potato	Ipomoea batatas	Shakar-quand	Sarkarai valli kizhangu	Dumpalu ; Chelagada dumpalu ; Ratnapuri gadda	Genasu
213.	Tapioca	Manihot esculenta	Maravali ; Simla alu : Edel	Maravalli kizhangu ; Kuchi kizhangu	Karra-pendalam	Mara genasu
214.	Tapioca chips, dried	-do-	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	Onthalaigasu	...	Asiatic yam ; Ratalu ; Khemalu
Uli piaja	Kanda	Bara pyaj	Dungli	Ulli ; Sawala	Gandu'	...
Piaja	...	Chota pyaj	...	Ulli (cheruthu)	...	...
...	...	...	...	Parsnip kizangu	...	..
Alu	Batata	Gol alu	Batata	Urula kizangu	Oloo	...
Dhala mula	Mula	Mula (sada)	Safed mula	Mullangi (Velutha tharam)	Muj	...
Nali mula	Mula	Mula (lal)	Mogari	Mullangi (chuvanna tharam)	Wuazu' Muj	...
...	...	...	...	...	...	Muli
...	...	...	...	...	...	...
Kanda mula	Ratale	Ranga alu	Sakkaria	Chakkara kizhangu	...	Convolvulus batatas
Katha kanda	...	...	...	Mara-kizangu	...	M. utilissima ; Bitter cassava ; Manioc; yuca ; Cassava
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
215.	Tigo	Dioscorea pentaphylla var. communis Burkhill	...	...	...	...
216.	Turnip	Brassica rapa	...	...	...	...
217.	Turum sanga	Curculigo orchioides	...	...	...	...
218.	Usingid	Hibiscus cancellatus	...	...	...	...
219.	Yam (ordinary)	Typhonium trilobatum	Ratalu	Karunai kizhangu	Kanda	Chikka suvarna gedda
220.	Yam (elephant)	Amorpho-phallus campanulatus	Zamin kand	Senai kizhangu	Surei kanda	Dodda suvarna gedda
221.	Yam (wild)	Dioscorea versicolor, Wall.	...	...	...	...
222.	Water lily, white	Nymphea lotus, var. lotus	...	...	...	...
223.	Water lily, red	Nympea lotus, var. rubra	...	...	...	...
						OTHER
224.	Amaranth stem	Amaranthus gangeticus	Cholai ki dandi	Keerai thandu	Thota koora kada	Dantu
225.	Amaranth seeds (arakkeerai)	Amarantus tristis	...	Arakkeerai vidai	...	...
226.	-do- (thandukkeerai)	Amarantus gangeticus	...	Thandu-keerai vidai	...	...
227.	-do- (sirukeerai)	Amarantus polygonoides	...	Sirukeerai vidai	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	Haser
...	...	...	...	...	Guagu'j	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Khamba alu	Goradu	Ghet kachu, Ratalu	Ratalu	Chena (sadharana)	...	...
Hatikhojia alu	Suran	Ol	Suran	Chena (valuthu)	...	Elephant foot yam ; Telinga potato ; Hathi chak
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
VEGETABLES						
Khada	Rajgira	Nate danta	Rajgiro	Cheru cheera-thandu	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Names of Foodstuffs in

S. No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
228.	Artichoke	Cynara scolymus	Hattichak	...	...	...
229.	Ashgourd	Benincasa hispida	Petha ; Kohala petha	Kalyana pushinikai; Sambal pusanikkai	Budeda gummidi	Budu gumbala
230.	Bagnaha	Capparis horrida Linn.	...	...	...	...
231.	Beans, runner or scarlet	Phaseolus coccineus	...	...	...	...
232.	Bittergourd	Momordica charantia	Karela	Pavakkai	Kakara	Hagalkai
233.	Bittergourd small variety	-do-	...	Medhi pagakkai	Akakara	...
234.	Brinjal	Solanum melongena	Baingan	Kathiri kai	Vankayi	Badane
235.	Broad beans	Vicia faba	Sem	Avaraikai	Pedda chikkudu	Chappara davare
236.	Calabash cucumber	Lagenaria siceraria	Lowki ; Ghia kadu	Soraikkai	Sora kaya ; Anappa kai	Sore kai
237.	Cauliflower	Brassica oleracea botrytis	Gobhi	Kovippu	Kosugadda	Hukosu
238.	Celery stalks	Apium graveolens var. dulce	...	...	...	...
239.	Chaltha	Dillenia indica	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	Hatichoke	...	Artichoke	...	...
Pani-kakharu	Kohala	Chal kumra	...	Elavan ; Kumbe-langa	Mashaa'ly al	Waxgourd ; B. cerifera ; White gourd ; Chinese preserving melon
...	...	...	...	...	...	...
...	...	...	...	...	...	P. multiflorus ; Lipusa multiflora ; Multiflora bean ; Sem ; Sim ; Uri
Bada kalara	Karle	Karala	Karela	Kayappakka	Karelu'	Balsam pear
Thusi kalara	...	Uchchhe	...	Kayappakka cheru-tharam	...	...
Baigana	Vange	Begun	Ringna	Vazhu-thininga	Waangun	Egg plant ; Bengen
Simba	...	Makhan sim	Fafda papdi	Avrakka	Broad bean	Faba vulgaris ; Windsor or Horse bean ; Bakla
Lau	Pandhara; Bhopala	Lau	Dudhi	Churakai	Duagu'r al	Bottlegourd ; Calabash gourd ; Kaddu
Phool kobi	Phool kobi	Phul kopee	Phul kobi	Kali flower	Phool-goobee	Olkapi
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
240.	"Cho-cho" marrow	Sechium edule	...	Seemai kathirikai	...	Seeme badane
241.	Cluster beans	Cyamopsis tetragonoloba	Guar ki phalli ; Raharia sem	Kotha-varangai	Goruchi-kkudu kayalu	Gori kayi
242.	Colocasia stems	Colocasia esculenta	Banda ; Arwiki dandi	Seppan thandu	...	Keshave dantu
243.	Cowpea pod (red)	Vigna catiang	...	...	...	...
244.	Cowpea pod (white)	-do-	...	...	...	...
245.	Cucumber	Cucumis sativus	Kakari	Kakkari-kkai ; Vellarikkai	Dosakaya	Southai kayi
246.	Daincha seeds	...	...	...	...	...
247.	Double beans	Faba vulgaris	Chastang	...	...	...
248.	Drumstick	Moringa oleifera	Saijan	Murungai kai	Mulaga kada	Murigui kayi
249.	Field beans, tender	Dolichos lab lab	...	...	...	...
250.	Figs, red	Ficus cunia	...	...	...	...
251.	French beans	Phaseolus vulgaris	Bakla	Beans	Beans	Huruli kayi
252.	Ghosala	Luffa cylindrica	...	...	...	...
253.	Giant chillies	Capsicum annuum, var. grossa	Paprika	Koda milagai	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Phuti kakudi	...	...	...	Cho-cho (Kambu)	...	Chayote ; juani ; Nada ; Squash ; Quash ; Christophine ; Pipinella
Guanra chhuin	Govari	Jhar sim	Govar	Kothavara	...	Cyamopsis psoraloides DC ; Guara ; Guar khurti
Saru nada	...	Kachu danta	...	Chembin thandu	...	...
...	...	...	...	...	...	Roma ; string beans
...	...	...	...	...	...	Boro
Kakudi	Kakari ; Khire	Sasha	Kakdi	Vellari	Laa'r	Khira ; Tar ; C. utilissimus
...	...	...	...	...	...	...
Bean	...	...	Papdi	Avara	...	...
Sajana chhuin	Shevuga sheng	Saijna danta	Saragavo	Muringa-kkai	...	Horse-radish
...	...	...	...	...	...	Hyacinth bean ; Lablab vulgaris ; Sim ; Sem ; Popat ; Papdi
...	...	...	...	...	...	...
Bean	Pharashee	...	Fansi	French avara (Seema avara)	Faraa'sh bean	Kidney bean ; Dwarf, haricot or string bean ; Faras bean
...	...	...	...	...	...	...
...	...	...	...	...	...	Giant capsicum

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
254.	Green papaya	Carica papaya	...	Pappali kai	...	...
255.	Ipomoea stems	Ipomoea reptans	...	...	...	...
256.	Jack, tender	Artocarpus heterophyllus	Kathal	Pila pinchu	Letha panasa	Yele halasu
257.	Jackfruit seed	-do-	Kathal bichi	Pilakkottai	Panasa ginjalu	Halasina beeja
258.	Kacha Boorooi	Gardenia gummifera	...	...	...	...
259.	Kandan kathiri	Solanum xanthocarpum	Kateli	Kandan kathiri	Vamkuda	...
260.	Kankada	Momordica dioica	...	...	...	...
261.	Karonda	Carissa carandus	...	...	...	...
262.	Kheksa (big) hilly variety	Momordica cochinchinensis	Ochen sanga	...	...	...
263.	Kovai fruit, tender	Coccinia cordifolia	Kundree	Kovaikai	Dondakayi	...
264.	Knol-khol	Brassica caulorapa	Kohl rabi	...	...	...
265.	Kutcha barhar	Artocarpus lakoocha	...	...	...	...
266.	Ladies fingers	Abelmoschus esculentus	Bhindi	Vendaikai	Bendakayi	Bende
267.	Lama-ke-Biyaka gudda	Bauhinia vahlii	...	...	...	...
268.	Leeks	Allium porrum	Vilayaiti lasson	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
Kandamila danka	Nalichi bhaji	Kalmi danta	...	Ipomiya thandu	...	...
Panasa katha	Phunas	Echore	Kawla phanas	Idichakka	...	A. integrifolius ; Jaka ; Jak
Panasa manji	Athali	Kathal bichi	Phanas na bi	Chakka-kkuru	...	...
...	...	...	...	...	...	...
Bheji Baigana	...	...	Bhony ringni	Kandan kathiri	...	S. indicum multiflora
...	...	...	...	...	...	Karantoli
...	...	...	...	...	...	...
...	...	...	...	...	...	Chathail; Kakora; M. mixta ; Kakur ; Bhat karela
Kunduru	Tondale	Telakucha	...	Elam kovakka	...	C. indica ; Cephalandra indica ; Ole kapi
Ulkobi	Knol-khol (Nolkol)	Ole kapi	Nol kol	Nool-kol	Mo'nd	Ganth gobee ; B. oleracea gongylodes
...	...	...	...	...	...	Green monkey fruit
Bhendi	Bhendi	Dherash	Bhinda	Vendakka	Bindu'	Okra ; Hibiscus esculentus
...	...	...	...	...	...	...
Bilati rasuna	Khorat	Bilati payaj	...	Ulli thandu	Vyalaa' ytee Ruhun	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
269.	Mahua fruits	Bassia (madhuca) latifolia	Kochra ; Koin ; Dola	...	...	...
270.	Mango green	Mangifera indica	Am (Keri)	Mangai	Mamidi-kayi	Mavinakayi
271.	Mango seed kernel (Totapuri)	-do-	...	...	...	...
272.	Mando seed kernel (Neelam)	...	...	...	...	...
273.	Mogra (red variety)	...	...	...	...	...
274.	Mogra green	...	...	...	...	...
275.	Mushroom, paddy straw	Valvaria diplapia	...	Kalan ; Naykkudai	...	...
276.	Nellikai	Phyllanthus emblica	Amla	Nellikai	Usiri kayi	Nellikayi
277.	Nut of avocado pear	Persea drymifolia	...	...	...	...
278.	Onion stalks	Allium cepa	Pyaz	...	Ulli kadalu	Erulli soppu
279.	"Parwar"	Trichosanthes dioica	Palwal	...	...	...
280.	Peas, English	Pisum sativum	Matar	Pachai pattani	Pachi battani	Seemai batani
281.	Pink beans	Phaseolus vulgaris	Babril	...	...	Kempu huruli
282.	Plantain flower	Musa sapientum	Kele ka phul	Vazhaippu	Aratipuwu	Balo motho
283.	Plantain, green	-do-	Kele ka phate	Vazhaikkai	Arati kayi	Bale kayi
284.	Plantain, stem	-do-	Kele ka tana	Vazhai-thandu	Arati davva	Dindu

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
Kancha ambu	Amba	Kachucha am	Keri	Pacha manga	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	..
...	...	...	...	...	...	...
Anla	Anvla	Amlaki	Amla	Nellikka	...	Indian goose-berry
...	...	...	...	Avocado perakka kuru	...	...
Piaja sandha	Pati	Payaj kauli	Dunglina dakhadi	Ulliera thandu	...	...
Potala	Parwar	Patol	Padwal, parvar	Parwar	...	Coccinia indica ; Patal
Matara	Vatana	Bilati motor	Watana	English payaru	Matar'	Field pea ; Kushi kelao ; Pisum arvense
Nali simba	...	Lalsim	Valore	Chuvanna avara	...	...
Kadali bhanda	Kel phool	Mocha	Kelphool	Vazhapoo	...	Banana flower
Bantala kadali	Kele	Kanch kela	Kela	Vazhakka	...	...
Kadali manja	Kelicha khunt	Thor	Kelanu thed	Vazha pindi	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
285.	Pumpkin	Cucurbita maxima	Kaddu	Parangikkai	Gummadi kayi	Kumbala
286.	Radish, table	Raphanus sativus	...	...	...	...
287.	Radish tops, green pods	-do-	...	...	...	...
288.	Rape plant stem	Brassica napus	Sarson ki dandi	...	...	...
289.	Redgram, tender	Cajanus cajan	Kutcha arhar	...	...	...
290.	Rhubarb stalks	Rheum rhapnoticum	Revand chini	Nattu ireyal-chinni	Nattu pasapu chinna gadda	...
291.	Ridge gourd	Luffa acutangula	Torai	Pirkkankai	Beerakai	Heeraikai
292.	Sanga ka phal	Dioscorea anguina	...	...	...	...
293.	Seaweed, Gracilaria	Gracilaria lichinoides	...	Kadal pasi	...	...
294.	-do-	-do-	...	-do-	...	...
295.	Seaweed, Hypnea	Hypnea musciformis	...	-do-	...	...
296.	-do-	-do-	...	-do-	...	...
297.	Seaweed, ulva	Ulva lactuca	...	-do-	...	...
298.	-do-	-do-	...	-do-	...	...
299.	Snakegourd	Trichosanthes anguina	...	Podalangai	Potlakayi	Padavala

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Kakharu	Lal bhopla	Kumra (doga)	Kohlu	Mathan	Paa'rimal	C. moschata, ; Squash ; Motha kaddu ; Lal kumra
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Sorisa nada	...	Sarisa danta	Rainu zad	Mundhi-ranga chedi thandu	...	...
...	...	...	...	...	...	...
...	...	Reuchini danta	...	Variyath thandu	...	Garden rhubarb
Janhi	Dodka	Jhinga	Turia	Pecchinga	Turrelu'	Kali tori ; Dish cloth gourd; Towel gourd ; Sweet gourd
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Chachindra	Pudwal	Chichinga	Pandcla	Padavalanga	...	T. colubrina ; Chichinda

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
300.	Spinach stalks	Spinacea oleracea	Palak ki dandi	...	Bachala kada	...
301.	"Sundakai" dry	Solanum torvum	...	Sundakkai vathal	Usthikaya	Sondekai
302.	Sword beans	Canavalia gladiata	...	Kattu thambattam	Adavi thamaa	...
303.	Tetrolobar bean	Lotus tetrogonolobus, L.	Hatnah sirmi	...	...	...
304.	Tinda, tender	Citrullus vulgaris	Tinda	...	...	...
305.	Tomato, green	Lycopersicon esculentum	Vilayti baingan	Thakkali kai	Seema vankayi	Asavru dapparu chapparu badane
306.	Vegetable marrow	Cucurbita pepo	Safedh kaddu	...	Buddadi gummadi	Dil Pasand
307.	Water chestnut	Trapa bispinosa	Singhara	Pauri mattaisel	Kubayakam	...
308.	Water chestnut, dried	-do-	...	...	...	...
						NUTS AND
309.	Almond	Prunus amygdalus	Badham	Badam ; Vadam kottai	Badam kayi	Badami
310.	Cashewnut	Anacardium occidentale	Kaju	Mundiri-paruppu	Jeedi pikka	Geru pappu

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Palanga nada	Palong sag danta	Palong sag danta	...	Vasalicheera thandu	...	...
...	...	Titbaigum	...	Sundakka (Unangi-yathu)	...	
Maharda	Abaichi sheng	Kathsim	Abbayni shing ; Taravardini vel	Valavara	...	Sabre bean ; Bara sem ; Makhan sim ; C. ensiformis
...	...	...	...	...	...	...
...	...	...	Tadabuch ; Kalinger	Elam thinda	...	Round gourd
Kancha bilati baigana	Tomato	Kancha bilati begum	Tamatu	Pachha thakkali	Ruvaangan	Solanum lycopersicum ; Love apple
Golu phuti kakuri	Pandhara-bhopla ; Kashi bhopla	Dhundul	...	...	Kaa'shir al	Halwa kaddu ; C. verrucosa ; C. polymorpha ; Field pumpkin ; Kumra ; Sitaphal ; Nenua
Pani singhra	Shinghara	Paniphal	Shingoda	Singhara (Jala sasyam)	...	Water caltrops ; Jesuits nut
...	...	...	...	...	...	...
OILSEEDS						
Badama	Budam	Badam	Badam	Badam	Baadaam	...
Lanka ambu manji	Kaju	Hijli badam	Kaju	Parangi-yandi ; Kashuandi	Kaajoo	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
311.	Charoli seeds	Buchanania latifolia var. chironji	...	Saraippar-uppu	...	...
312.	Coconut, dry	Cocos nucifera	Nariyal	Thengai	Kobbari kayi	Thengu
313.	Garden cress seeds	Lepidium sativum	...	...	...	...
314.	Gingelly seeds	Sesamum indicum	Til	Ellu	Nuvvulu	Acchellu
315.	Groundnut	Arachis hypogea	Moong-phali	Nilakka-dalai	Veru sanaga kayi	Kadale kayi
316.	Groundnut, roasted	-do-	Bhuni mongphali	Varutha nilakka-dalai	Vachina veru sanaga kayi	Hurida kadale kayi
317.	Jungli badam	Sterculia foetida L.	...	...	Yenuga badam ; Angrezi badam	...
318.	Kusumb seeds	Carthamus tinctorius	Kardi seeds	...	...	...
319.	Linseed seeds	Linumussita-tissimum	Alsi	...	...	...
320.	Mustard seeds	Brassica campestris	Rai	Kadugu	Avalu	Sasave
321.	Niger seeds	Guizotia abyssinica	...	...	...	...
322.	Oysternut	Telfairea pedata	...	...	...	...
323.	Pistachio nut	Pistacia vera	Pista	Pistha paruppu	...	Pisthaw
324.	Sunflower seeds	Helianthus annuus	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	Charoli	...	...	...	...	B. lanzan
Nadia	Naral	Narikal	Nariel	Thenga	Narjcel	...
...	Haliv	...	...	...	...	...
Rasi	Til	Til	Tal	Ellu	...	...
China badam	Bhui moog	China badam	Bhoising	Nilakkadala	Moong fali	...
Bhaja china badama	(Bhui moog) Bhajaleli-sheng	-do-	Shekeli shing	Nilakkadala varuthathu	...	...
..	...	...	...	...	...	Elephant almond; Malabar almond
...	...	...	...	...	...	Safflower seeds
Pesi	Juwas	Tishi	Alsi	Cheruchana vithu	A'lish	...
Sorisa	Mohori	Sarisha	Rai	Kaduku	Aasur	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Pista	Pista	Pesta	Pista	Pistasi andi	Jalguza	...
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
325.	Walnut	Juglans regia	Akhrot	Nattu akrotu kottai	Nattu akroti vittu	...
					CONDIMENTS,	
326.	Arisithippili	Piper clusii	...	Arisithippili	...	...
327.	Asafoetida	Ferula foetida	Hing	Perungayam	Inguva	Hingu
328.	Cardamom	Elettaria cardamomum	Elaychi	Elakkai	Elakkayi	Yelakki
329.	Chillies, green	Capsicum frutescens	Mirch, Hari	Pachai milagai	Pachi mirapakayi	Hasi menasinakayi
330.	Chillies, dry	-do-	Mirch, lal	Milagai vathal	Endu mirapakayi	Vona menasinakayi
331.	Cloves, dry	Syzigium aromaticum	Laung	Kirambu ; Lavangam	Endu lavangalu	Lavanga
332.	Cloves, green	-do-	...	Pachai kirambu	Pachi lavangalu	Hasi lavanga
333.	Coriander	Coriandrum sativum	Dhania	Kothamalli virai	Dhaniyalu	Kothauri-lipa
334.	Cumin seeds	Cuminum cyminum	Zira	Jeeragam	Jeelakara	Jeerage
335.	Fenugreek seeds	Trigonella foenum-graecum	Methi	Venthayam	Menthulu	...
336.	Garlic, dry	Allium sativum	Lehsan	Ullipundu	Vellulli	Beliulli
337.	Ginger, fresh	Zingiber officinale	Adrak	Inji	Allam	Shunti
338.	Kandanthippili	Piper roxburghii	...	Kandan-thippili	...	...
339.	Lime peel	Citrus medica var. acida	Neelre ka chpilkai	Elumicha-mthol	Nimma thokku	Nimbe sippai

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Akhoot	Akrod	Akhrot	Akrot	Akrotandi (Aksho-dakkai)	...	...
SPICES ETC.						
Sarupipali	...	Pipul	...	Arisithippali	...	...
Hingoo	Hing	Hing	Hing	Perungayam	Yangu'	Hingra
Alaichi	Velchi	Elachi	Elaychi	Elathari	Aa'l Budu'a aa'l	Choti elachi ; Amomum Subulatum
Kancha lanka	Mirchi hirvi	Kancha lanka	Lila marcha	Pacha mulaku	Myool martsu waungun	...
Sukhila lanka	Mirchi lal	Sukna lanka	Sukvela marcha	Kappal mulaku	Wuazul martsu waungun	Red pepper ; Bell pepper ; Red chillies
Sukhila labang	Luvang	Sukna labanga	Lavang	Karambu	Ru'ang	Eugenia aromatica ; E. caryophyllata
Kancha labang	-do-	Kancha labanga	...	...	...	Long
Dhania	Dhane	Dhania	Kothmir, libdhana	Kotham balari	Daaniwal	...
Jira	Jire	Zira	Jiru	Jeerakam	Zyur	C. odorum ; Safed jira
Methi	Methi	Methi	Methi	Uluva	...	Thum
Rasuna	Lusoon	Rashun	Lasan	Vellulli	Ruhan	...
Ada	Ale	Ada	Adu	Inji	...	...
Pipali	Mire	Pipul	...	Kandan-thippali	...	...
Lembri chopa	Limb sal	Lelrer-khoshu	Limbuni chhal	Cherunar-angatholu	...	...

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
340.	Mace	Myristica fragrans	Javitri	Jathi pathiri	Japathri	...
341.	Nutmeg	-do-	Jaiphal	Jathikai	Jajikai	Jayikai
342.	Nutmeg rind	-do-	...	Jathikaithol	...	Jaikai thogate
343.	Omum	Trachy-spermum ammi	Ajwan	Omum	Vamu	Oma
344.	Pepper, green	Piper nigrum	...	Pachai milagu	Pachi miriyalu	Hasi menasu
345.	Pepper, dry	-do-	Kalimircha	Milagu	Endu miriyalu	Vona menasu
346.	Tamarind pulp	Tamarindus indica	Imli	Puli	Chintha pandu	Hunise hannu
347.	Turmeric	Curcuma domestica	Haldi	Manjal	Pasupu	Avashina

FRUITS AND

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
348.	Ambada	Spondias mangifera	Amra	...	...	...
349.	Apple	Malus sylvestris	Seb	...	...	Sebu
350.	Apple, Ambri sev	Malus sylvestris	...	...	...	...
351.	Apple, desi sev	-do-	...	...	...	...
352.	Apple, Golden sev	-do-	...	...	...	...
353.	Apple, Kotgarh sev	-do-	...	...	...	...
354.	Apple, Kulu sev	-do-	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Jaitri	Jaypatri	Jayitri	Javantri, Jayapatri	Jathipathri	Jalwatur'	M. aromatica
Jaiphala	Jaiphal	Jaiphal	Jayphal	Jathikka	Zaaphal	...
Jaiphal-chpoa	...	Jaiphal bakal	...	...	...	...
Juani	Onva	Joan	...	Omam (Ayamoda-kam)	Jaaweni	Carum capticum ; Jurani
Kancha-golmaricha	Mire	Kancha golmarich	...	Pacha kurumulaku	...	...
Sukhila golmaricha	...	Sukna golmarich	Mari	Kurumulaku (Unangi-yathu)	Maruts	Black pepper ; Gole mirch
Tentuli	Chinch	Tentul	Amli	Puli	Tambe'r	...
Haladi	Hulad	Halud	Haldhar	Manjal	...	C. longa
FRUIT PRODUCTS						
...	...	...	...	...	...	Indian hogplum ; S. pinnata
Seu	Sufur-chand	Apel	Safarjan	Apple pazham	Tsoonth	M. communis ; Pyrus malus ; Tarel
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
355.	Apple, Maharaji sev	-do-	...	...	...	...
356.	Apple, Red Royal, large	-do-	...	...	...	...
357.	Apricots, fresh	Prunus armeniaca	Khurmani	...	...	...
358.	Apricots, dried	-do-	...	...	...	...
359.	Bael fruit	Aegele marmelos	Bel	Bilva pazham	...	...
360.	Baincha	Flacourtia Ramontchi L'herit	...	...	...	...
361.	Bamboo fruit	Bambusa arundincea	...	...	...	...
362.	Banana, ordinary	Musa paradisiaca	Kela	Poovan vazhai	Arati pandu	Bale
363.	Banana, "Anaikombu" hill variety	-do-	-do-	Malai vazhai-pazham	Konda arati	Mala balai
364.	Banana, chitri-dar kela	-do-	...	...	...	...
365.	Banana, green variety	Musa cavendishii	...	Pacha vazhai	...	Pacha bale
366.	Banana, Krishna vazhai	Musa paradisiaca	...	Karuvazhai	...	...
367.	Banana, Laden	Musa paradisiaca	...	...	...	...
368.	Banana, nendran	-do-	Kela	Nendram vazhai	Aratipandu	Bale

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	T'ser	Armeniaca vulgaris ; Khubani
...	...	...	...	...	...	...
...	...	...	...	...	...	Wood apple
...	...	...	...	...	...	Baichi ; Flacourtia indica ; Governor's plum ; Batoko plum
...	...	...	...	...	...	...
Champa Kadali	Kele	Kala	Kela	Vaza pazham (sadharana)	Kela	...
Pahadi kadali	-do-	Kala (pahari)	...	Mala vazha pazham (Anai kombu)	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Kadali	Kele	Kala	Kela	Nendra pazham	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
369.	Banana Pachanadan	-do-	...	Pachanadan pazham	...	...
370.	Banana, Raja vazhai	Musa sapientum L.	...	...	...	...
371.	Banana, Rasthali	Musa sapidisiaca L.	...	...	...	Rasabale hannu
372.	Banana, Red variety	Musa paradisiaca var. rubra	Alucha, zardalu	Sevvazhai pazham	Erra arati pandu	Keni valai
373.	Banana, Thenkadali	Musa paradisiaca L.	...	...	...	...
374.	Banana, Thenkunnan	-do-	...	...	...	...
375.	Banana, Vellakadali	-do-	...	...	...	...
376.	Banana, Yellow large	Musa paradisiaca var. champa	...	...	...	...
377.	Banana, Yellow small	Musa paradisiaca var. chinichampa	...	...	...	...
378.	Barhar	Artocarpus lakoocha	Barhal	...	...	Vote huli ; Esalupuli
379.	Banyan tree figs	Ficus bengalensis	Bark ka pakua	Arasam pazham	...	...
380.	Bastard lichi	Nephelium longana	Longan ; Lungan ; Lichi ka bacha ; Ansfal	...	...	...
381.	Bid root	Scirpus grossus Linn. var. Kysoor Clarke	Kaseru	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Amrut-phani kadali	Thambadi keli	Agniswar kala	Lal kela	Chenkadali pazham	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
..	...	...	...	...	...	Monkey jackfruit ; Daua ; Monkey fruit
...	...	...	...	...	...	...
...	...	...	...	...	...	Ashphal ; Euphoria longan ; Dimocarpus longan.
...	...	...	...	...	...	...

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
382.	Bilimbi	Averrhoa bilimbi	Kamrack	Bilimbi	Bilibili kayalu	Kamaleku
383.	Blackberry	Rubus fruticosus	...	...	...	...
384.	Bor	Zizyphus jujuba	Ber ; Bayr	Elantha-pazham	Regu	Yelachi
385.	Borocee	Gardenia gummifera	...	...	...	...
386.	Bread fruit	Artocarpus altilis	...	...	...	...
387.	Bullock's heart	Anona reticulata	Nona atwa	Ramsita pazham	Rama phala	Rama phala
388.	Cape gooseberry	Physalis peruviana	Rashbhari	...	...	...
389.	Cashew apple, fleshy peduncle	Anacardium occidentale	...	...	...	...
390.	Cashew fruit	-do-	Kajuka phal	Mundiri pazham	Jeedi pandu	Geru hannu
391.	Cherries, red	Prunus cerasus	Cheri ; Gilas	...	...	...
392.	Chibhood	Cucumis sativus	...	...	...	...
393.	Cherimoyer	Anona cherimolia	Hanuman phal	...	...	...
394.	Currants, black	...	...	...	...	...
395.	Dates, dried	Phoenix dactylifera	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Karamanga	...	Kamranga	...	Bilimbi	...	...
...	...	...	...	...	...	Bramble
Barakoli	Bor	Kul	Bor	Elanda pazham	Bre'y	Zizyphus mauritiana ; Indian jujube ; Jujube ; Oblong berry ; Indian plum
...	...	...	...	...	...	...
...	...	Madar	...	Bilathi chakka ; Kada chakka	...	A. communis ; A. incisus
Sitaphala, Raja amba	Ramphal	Nona	Ramphal	Athamaram (Parangi chakka)	...	...
...	Tipari	Tepari	Popta	Kodi nellikka	...	P. edulis
...	...	...	...	...	...	...
Lanka amba	Kaju phal	Hijli badam	Kajupal	Parangi manga ; Kashu manga	...	Kaju badam
...	...	...	...	...	Gilaas	Sour cherry
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
396.	Dates, preserved (Persian)	-do-	Khajur	Pericham-pazham	Khar jooram	Khararjoo
397.	Dates (Indian)	Phoenix sylvestris	Deshi khajur	...	...	...
398.	Durain, ripe	Durio zibethinus	...	...	...	...
399.	Figs	Ficus carica	Anjeer	Athi pazham	Athipallu	Anjura
400.	Gab	Diospyros embryopteris	...	...	...	...
401.	"Galgal" (Sour lime)	Citrus limonum	...	...	...	...
402.	Grapes (Blue variety)	Vitis labruscana vinifera	Angur	Nila drakshai	Nalla draksha	Kari drakshi
403.	Grapes (Pale green variety)	...	...	...	...	...
404.	Graps fruit (Triumph)	Citrus paradisi	Vilaiti chakatra	...	...	...
405.	Grape fruit (Marsh's seed-less)	-do-	Vilaiti chakatra bedana	...	...	...
406.	Guava, country	Psidium guajava	Amrud	Koyya pazham	Jami pandu	Seebai
407.	Guava, hill	Psidium cattelianum	...	Seemai koyya pazham	Konda jami pandu	Bella seebai
408.	Guava, Japanese	Psidium littorale	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Khajuri	Khajoor	Khejur	Khajur	Persian ethha-pazham	Kha'zur	...
...	...	...	...	...	...	...
...	...	...	...	Durian pazham	...	...
Dimiri	Anjeer	Dumoor	Anjir	Attipazham	A'njeer	Dumar ; F. hispida ; Gullar
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Angur (Kala)	Draksha	Angur	Draksha	Mundiringa (Neela jathi)	Da'ch	...
...	...	...	...	...	...	...
Bada angur	...	Bilati batabi (jambura)	...	Mundri pazham (Tryamph)	...	C. maxima
...	...	Bilati batabi	Chakotra	Mundiri pazham (kuru villa-thathu)	Be'daanu Dach	...
Desipijuli	Peru	Payara (Deshi)	Jam phal	Nattu perakka	...	...
Pahadi pijuli	...	Payara (Pahari)	...	Malam perakka	...	...
...	...	...	...	...	...	Strawberry guava ; Gooseberry guava ; Cuttley guava

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
396.	Dates, preserved (Persian)	-do-	Khajur	Pericham-pazham	Khar jooram	Khararjoo
397.	Dates (Indian)	Phoenix sylvestris	Deshi khajur	...	...	...
398.	Durain, ripe	Durio zibethinus	...	...	...	...
399.	Figs	Ficus carica	Anjeer	Athi pazham	Athipallu	Anjura
400.	Gab	Diospyros embryopteris	...	...	...	...
401.	"Galgal" (Sour lime)	Citrus limonum	...	...	...	...
402.	Grapes (Blue variety)	Vitis labruscana vinifera	Angur	Nila drakshai	Nalla draksha	Kari drakshi
403.	Grapes (Pale green variety)	...	...	...	...	...
404.	Graps fruit (Triumph)	Citrus paradisi	Vilaiti chakatra	...	...	...
405.	Grape fruit (Marsh's seed-less)	-do-	Vilaiti chakatra bedana	...	...	...
406.	Guava, country	Psidium guajava	Amrud	Koyya pazham	Jami pandu	Seebai
407.	Guava, hill	Psidium cattelianum	...	Seemai koyya pazham	Konda jami pandu	Bella seebai
408.	Guava, Japanese	Psidium littorale	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Khajuri	Khajoor	Khejur	Khajur	Persian ethha-pazham	Kha'zur	...
...	...	...	...	...	...	...
...	...	...	...	Durian pazham	...	...
Dimiri	Anjeer	Dumoor	Anjir	Attipazham	A'njeer	Dumar ; F. hispida ; Gullar
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Angur (Kala)	Draksha	Angur	Draksha	Mundiringa (Neela jathi)	Da'ch	...
...	...	...	...	...	...	...
Bada angur	...	Bilati batabi (jambura)	...	Mundri pazham (Tryamph)	...	C. maxima
...	...	Bilati batabi	Chakotra	Mundiri pazham (kuru villa-thathu)	Be'daanu Dach	...
Desipijuli	Peru	Payara (Deshi)	Jam phal	Nattu perakka	...	...
Pahadi pijuli	...	Payara (Pahari)	...	Malam perakka	...	...
...	...	...	...	...	...	Strawberry guava ; Gooseberry guava ; Cuttley guava

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
409.	Harfarowrie	Phyllanthus distichus Muel-Arg.	...	...	...	...
410.	Hoormed	Ericybe paniculata, Roxb.	...	...	...	...
411.	Indian prune, ripe and fresh	Prunus bokhariensis	Alubokhara-(taja)	...	...	...
412.	Jack fruit	Artocarpus heterophyllus	Kathal	Palapazham	Panasa-pandu	Halasu
413.	Jam	Eugenia malacensis	...	...	...	...
414.	Jamun, big	Eugenia jambolana	Jaman	...	...	...
415.	Jambu fruit	Syzigium cumini	Jaman	Naga-pazham	Neredu pandu	Neralai
416.	Jurmata	Canthium didymum	...	...	...	...
417.	Kamrak	Averrhoa carambola	Kamrakh	...	..	...
418.	"Karwanda" green	Carissa congesta	Karonda	...	...	...
419.	Karwanda" dry	Carrisa carandas	Karonda	...	...	...
420.	Kesaur	Pachyrhizus angulata	...	...	...	...
421.	"Kila pazham" small	Vaccinium leschenaulta	...	Kila pazham	Wakkai pandu	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	Rai amli; Country goose-berry
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Panasa	Phunas	Kanthal	Phanas	Chakka	...	A. integrifolius ; Jak
...	...	...	...	...	...	...
...	...	...	...	...	...	Syzigium cuminii ; E. cuminii Blackberry
Jamukoli	Jhambhool	Kalojam	Jambu	Jambu pazham ; Naga pazham	...	Myrtus cuminii
...	...	...	...	...	...	...
...	...	...	...	...	...	Carambola ; Bilimbi
...	...	Karamcha	...	...	...	...
Kendu	Karwand	Karamcha	Karwanda	Karwandai-(unangi-yathu)	...	...
...	...	...	...	...	...	...
...	...	...	...	Kilapazham Cheru tharam)	...	...

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
422.	"Korukka palli"	Pithecellobium dulce	Manilla imli	Korukka-ppalli ; Konapulian-gai	...	...
423.	Kusum fruits	Schleichera trijuga	Kusum ka phal	...	...	...
424.	Langsat	Lansium domesticum	...	...	...	...
425.	Lemon, sour	Citrus acida	...	...	...	...
426.	Lemon, sweet	Citrus limetta	...	...	...	...
427.	Lemon	Citrus limon	Meetha neebu	...	Gaja nimma pandu	Gaja nimbe
428.	Lichis	Nephelium lichi	...	...	...	...
429.	Lime juice	Citrus aurantifolia	...	...	...	...
430.	Lime	-do-	Neebu	Elumicham pazham	Nimma pandu	Nimbe
431.	Lime, sweet Musammi	-do-	...	...	...	...
432.	Loquat	Eriobotrya japonica	...	Lakota pazham	...	Laquot
433.	Lotus seeds, green and mature	Nelumbium speciosum	Kamalgatha	Thamarai vidai	...	...
434.	Mahua, ripe	Bassia longifolia	...	Iluppam pazham	...	...
435.	Malta sweet lime	...	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	Vilayati chinch	Bilati tetul	Goras amli	Korukka-palli	...	Jilebi ; Bilaiti amli
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Neebu
...	...	...	...	...	...	Meethay
Kagaji-lembu	Limbu	Lebu (mitha)	Limbu	Poo naranga	Nyomb	C. medica ; C. limonia ; Khatti
...	...	...	...	...	...	Litchi chinensis ; Dimocarpus Litchi ; Leeche ; Lychee
...	...	...	...	...	...	...
Gangakulia lembu	Mosumbe	Lebu (Kagji or Pati)	Kadgi limbu	Cheru naranga	Nyomb	C. medica var. acida ; Kagzi
...	...	...	...	...	...	...
...	Lukat	...	...	Lokvat pazham	Loquat	Photinia japonica ; Japan plum
...	...	...	...	...	...	...
...	...	...	...	...	...	Madhuca latifolia
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
436.	Mango, ripe	Mangifera indica	Am	Mampazham	Mamidi pandu	Mavina hannu
437.	Mango, Alphonso Bulsar	-do-	...	...	...	...
438.	Mango, Alphonso Ratnagiri	-do-	...	...	...	...
439.	Mango, Ankola	-do-	...	...	...	...
440.	Mango, Banarsi aam	-do-	...	...	...	...
441.	Mango, Banganpalli	-do-	...	...	...	...
442.	Mango, Bijoo	-do-	...	...	...	...
443.	Mango, Bombai	-do-	...	...	...	...
444.	Mango, Chausa aam	-do-	...	...	...	...
445.	Mango, Dasheri aam	-do-	...	...	...	...
446.	Mango, Fazli aam	-do-		...	...	...
447.	Mango, Gola aam	-do-	...	...	...	...
448.	Mango, Gulab-khas (Bhagalpur)	-do-	...	...	...	...
449.	Mango, Jardalu (Bnagalpur)	-do-	...	...	...	...
450.	Mango, Langda aam	-do-	...	...	...	...
451.	Mango, Malda aam	-do-	...	...	...	...
452.	Mango, Mithua (Patra)	-do-	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Pachila amba	Amba piklela	Paka am	Keri	Mampazham	Amb	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
453.	Mango, Mankur, Goa	Mangifera indica	...	...	...	...
454.	Mango, Nilam aam	-do-	...	...	...	...
455.	Mango, Perreira, Bulsar	-do-	...	...	...	...
456.	Mango, Perreira Ratnagiri	-do-	...	...	...	...
457.	Mango, Rusbahar aam	-do-	...	...	...	...
458.	Mango, Safeda aam	-do-	...	...	...	...
459.	Mango, Saharanpuri	-do-	...	...	...	...
460.	Mango, Sindhuri aam	-do-	...	...	...	...
461.	Mango, Sipia aam	-do-	...	...	...	...
462.	Mango, Summer bhaisht	-do-	...	...	...	...
463.	Mango, tamuri aam	-do-	...	...	...	
464.	Mango, tota aam	-do-	...	...	...	...
465.	Mango powder	-do-	Aam choor	...	...	...
466.	Mango seed kernel, neelam	-do-	Am ka guthli ka atta	...	...	...
467.	Mango seed kernel, Totapuri or Bangalore	-do-	...			
468.	Mangosteen	Garcinia mangostana	...	Mangusthan	...	Mangusthan

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	Mangustin	...	Mangosteen pazham	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
469.	Mata suta (whole fruit)	Antidesma ghoesembilla	...	...	...	...
470.	Mata sura (skin and pulp)	-do-	...	...	...	...
471.	Melon, water	Citrullus vulgaris	Tarbuz	Darbusini (Piteha)	Tharbuja pandu	Kallan gadi
472.	Melon, white	Cucumis melo	Kharbuz ; kharbuza	...	...	...
473.	Melon, white sherda	...	...	...	...	...
474.	Melon, white phutt	...	...	...	...	...
475.	Melon, white seeds	...	...	...	...	...
476.	Mulberry, English Black	Morus nigra	...	Musu-kkottai pazham	...	...
477.	Mulberry fruit MR 2	Morus latifolia	Toont hara	...	...	...
478.	Mulchhari	Mimusops elangi	...	...	...	...
479.	Neem fruit	Melia azadirachta	...	Veppam pazham	...	...
480.	Nisorha	Cordia myxa, Linn	...	...	...	...
481.	Orange, loose jacketed	Citrus aurantium	Narangi	Kichili pazham	Kamala pandu	Kithilai
482.	Orange, Jaffa	-do-	...	...	...	...
483.	Orange, Nagpur santra	-do-	...	...	...	...

Indian Languages *(Contd.)*

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Taruvuja	Kalingud	Tarmuj (Jol)	Tarbuj	Thannir mathan ; Kumma-ttinga	He'nd We'nd	Colosynthis vulgaris
...	..	...	...	...	Kherbuz	Musk melon ; Sweet melon ; Cantaloup
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	..	...	...	...	...	Shaitut
...	...	...	...	...	...	Morus indica
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Kamala	Santre	Kamala, Lebu	Santra	Madhura Naranga	Sangtar	C. nobilis , C. reticulata ; C. deliciosa ; Mandarin , Tangerine.
... ...	Mosumbe	Kamala ...	... ...	... ...	... ...	... ...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
484.	Orange, Nahan santra	Citrus aurantium	...	...	...	...
485.	Orange, Washington, naval	-do-	...	...	...	...
486.	Orange juice	Citrus aurantius L.	...	...	...	...
487.	Palmyra fruit tender	Borassus flabellifer	Tar	Nongu	Thati pandu	Thati nungu
488.	Palmyra fruit ripe (Meso carp)	-do-	Tar ka pheda	...	...	...
489.	Paniala	Flacoutia cataphroeta	...	...	...	...
490.	Pannirkoyya	Syzigium jambos	...	Pannir koyya	...	Panneralai
491.	Papa	Gardenia latifolia	...	...	...	...
492.	Papayya, ripe	Carica papaya	Papita	Pappali pazham	Boppay pandu	Pharangi
493.	Pappayya, unripe fruit	-do-	...	...	...	...
494.	Passion fruit	Passiflora edulis	...	...	...	...
495.	Passion fruit (Giant)	-do-	...	...	...	...
496.	Passion fruit juice (yellow)	-do-	...	...	...	...

Indian Languages *(Contd.)*

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	Mosumbe	Kamala	...	...	...	...
...	...	...	...	...	...	...
Tala	Shindi, Shirani	Tal shash	Tad	Elam panam nungu	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Chhota-pijuli (Pahadi)	Jambhool	Jamrul	Gulab jambu	Pannir koyya	...	Rose apple ; Eugenia jambos ; Gulab jamun ;
...	...	...	...	...	...	...
Pachila amrut-bhanda	Popai	Paka pepe	Popaya, Papaiya	Pappaya pazham ; Kappanga	...	Arind kharbuza
...	...	...	...	...	...	...
...	...	Passion phal	Krishna kamal	Kireeda pooched-pazham ; Pashion pazham	...	Granadilla ; Purple granadilla
...	...	...	...	...	...	Giant granadilla
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
497.	Peaches	Amygdalis persica	Arhu ; Aadoo	...	...	Mara sebu
498.	Pears (Bagugosha)	...	...	...	...	...
499.	Pears, Chinese	Pyrus chinensis	...	...	...	...
500.	Pears, country	Prunus persica	Naspati	Berikkai	...	...
501.	Pears "Desi pear"	...	...	...	...	...
502.	Pears, English	Pyrus achras	...	Val berikkai	...	...
503.	Pears "Kashmiri nakh"	...	...	...	...	...
504.	Pears, avocado	Persea americana	...	...	...	...
505.	Pears, Kieffer	Pyrus communis	...	...	...	...
506.	Perar	Randia uliginosa	...	...	...	...
507.	Persimmon	Diospyros kaki	...	...	...	...
508.	Phalsa	Grewia asiatica L.	Falsa	...	...	...
509.	Pineapple	Ananas comosus	Annanas	Annasi pazham	Anasa pandu	Ananas
510.	Pipal tree figs	Ficus religiosa	Pipar ka pakua	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Piccuu	Peech	Peach phal	Peech	Peechas pazham	Tsun'um	Prunus persica ; Prunus vulgaris ; Saftalu ; Satalu
...	...	...	...	...	...	...
...	...	...	...	...	...	P. pyrifolia ; Sand pear ; P. serotina ; P. sinensis ; Nashpati
Desi nasapati	Nashpati	Nashpati (deshi)	Naspatti	Nattu berikka	T'ang	...
...	...	...	...	...	...	...
Bilati nasapati	...	Nashpati (Bilati)	...	English berikka	...	...
...	...	...	...	...	...	...
...	...	Kulu-nashpati	...	Avocado berikka	Goshbub Tang	Butter fruit
...	...	...	...	...	...	Nakh
...	...	...	...	...	...	...
...	...	Gav	...	Persiman etha pazham	...	D. chinensis ; Kaki
...	...	...	...	...	...	...
Sapuri panas	Ananas	Anarash	Ananas	Kayitha chakka ; Annar chakka	...	Bromelia comosa ; Ananas sativus ; Anaras
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
511.	Piyal	Buchanania latifolia	...	...	...	...
512.	Plums, Gaviota	Prunus salicina	...	...	...	...
513.	Plums, Hale	-do-	...	...	...	...
514.	Plums, red, Nilgiris	Prunus domestica	Alubukhara	Alpagoda pazham	Alpogada pandu	...
515.	Plums, red, Punjab	-do-	...	...	...	...
516.	Plums, Rubio	Prunus salicina	...	...	...	...
517.	Plums, Satsuma	-do-	...	...	...	...
518.	Plums, Shiro	-do-	...	...	...	...
519.	Plums, small, Alucha	Prunus domestica	...	...	...	...
520.	Plums, Yellow-green, Punjab	-do-	...	...	...	
521.	Pomegranate	Punica granatum	Anar	Madalam-pazham	Danimma pandu	Dalimbari
522.	Pomegranate Punjab, Plain	-do-	...	...	...	...
523.	Pomegranate, Punjab, Anarlal	-do-	...	...	...	...
524.	Pomeloe	Citrus maxima	Chakotra	Bombalimas	Edapandu ; Pampara panasa	Chakkota
525.	Prunes	Prunus salicina	...	...	...	...
526.	Quince	Cydonia oblonga	Bihi	Seemai madalaivirai	Seema dalimma vithulu	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	..	...	...	Draksha-pazham (Chuvanna-tharam)	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	..	...	...	...	...	..
...	...	...	...	...	...	...
Dalimba	Dalimb	Dalim	Dalamb ; Dadam	Mathalam pazham	Daa'n	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Batapi lembu	Papnas	Batabi-jambura	Papnus	Pomelo pazham ; Bombilimas	...	Pumelo ; C. grandis ; C.decumana ; Shaddock
...	...	...	...	...	...	...
...	...	Bilati bael	...	Vilvam (Kuvalam)	Bamtsoonth	Cydonia vulgaris ; Pyrus cydonia

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
527.	Radish fruit	Raphanus sativus	Singri	Mullangi	Mullangi	Mullangi
528.	Raisins, preserved	Vitis vinifera	Kishmish	Kodi-munthiri	Kisumisu chettu	Drakshi
529.	Raisins, cheap variety	-do-	...	...	...	...
530.	Raisins, costly variety	Vitis vinifera	...	...	...	...
531.	Raisins, Big size with seeds	-do-	...	...	...	...
532.	Raspberry	...	Rusbhary	...	...	...
533.	Rayan	Mimusops hexandra Roxb.	...	...	...	...
534.	Sakkarteti (Ker)	...	...	...	...	...
535.	Sapota, Cricket Ball, Nilgiris	Achras zapota	Sapatu	...	...	...
536.	Sapotas, Bombay Chiku	Achras sapota	...	...	...	...
537.	Sapotas, Hyderabad chiku	-do-	...	...	...	...
538.	Sapotas, Punjab Cheekoo	-do-	...	...	...	...
539.	Seetha-pazham or custard apple Nilgiris	Annona squamosa	...	Seetha pazham	Seetha phalam	Seetha pala
540.	Sharifa or Custard apple Punjab	Anona squamosa	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	Dingri	Bilati mula	Dingri ; Mula ; Mulo	Mullangikai	...	...
Kismis	Manuka	Kismis	Khismis ; Draksh	Unakku mundiringa (sarkarayil ittu vacha-thu)	Kishmish Zirish	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Khirni ; Manilkara hexandra
...	...	...	...	...	...	...
...	...	...	...	...	...	Sapodilla plum
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Ata (Badhial)	Shita phal	Ata phal	Sita phal	Seetha pazham	...	Sweetsop ; Sugar apple
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
541.	"Sithaphal" Hyderabad	-do-	...	...	...	...
542.	Sirka	Zizyphus rugosa	...	...	...	...
543.	Star apple	Eugenia javanica	Jamrool	...	...	...
544.	Strawberry	Fragaria vesca	Straberry	...	...	...
545.	Tamarind pulp	Tamarindus indica	...	...	...	...
546.	Tar ka koa	Borassus flabellifer	...	...	...	...
547.	"Thavittu pazham"	Rhodomyrtus tomentosa	...	Thavittu pazham	...	...
548.	Tirkol ka phal	...	...	...	...	...
549.	Tomato, ripe	Lycopersicon esculentum	Vilayeti baingan	Thakkali pazham	Seema vanga pandu	Chappara badane
550.	Tomatillo	Physalis ixocarpa, Brot.	...	...	...	...
551.	Tree tomato	Cyphomandra betacea	...	...	...	...
552.	Tuki	Diospyros melanoxylon	...	...	...	...
553.	Velwa ka topi	Semicarpus anacardium	...	...	...	...
554.	Vikkipazham	Eleocarpus oblongus	...	Vikki-pazham	...	...
555.	Wood apple	Limonia acidissima	Kaith	Vilam-pazham	Velaga pandu	Bela

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Staberi	Straberi	...	Straw berry	Strabery pazham	Ishtaber	...
...	...	...	Ambli	...	...	...
...	...	...	...	...	...	...
Jangli pijuli	...	Bilati begun	...	Thavittu pazam	...	...
...	...	...	...	...	...	...
Bilati baigana	Tomato	...	Paka tamata	Thakkali pazham	...	...
...	...	...	...	...	...	Mexican husk tomato ; Jamberry
...	...	...	...	Mara thakkali	...	...
...	...	...	...	...	...	Kend
...	...	...	...	...	...	Orange calyx of marking nut
...	...	Jal pai	...	Vikki pazham	...	Wild olive
Kaitha	Kuvath	Kathbael	Kothu	Vilam pazham	...	Feronia limonie ; Feronia elephantum ; Elephant apple ; Kapith

Names of Foodstuffs in

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
			FISHES			
556.	Air	Arius arius	...	...	...	...
557.	Amlet	...	...	...	...	...
558.	Anchovy	Engraulis mystax	...	...	...	...
559.	Bacha	Chpisoma garua	...	...	...	...
560.	Bam	Mastacembelus armatus	...	...	...	...
561.	B aspata machli	Allia celia	...	...	...	...
562.	Bata (Small varieties)	...	...	...	...	...
563.	Bele	Glassgobius giuris	...	...	...	...
564.	Bhangar	Mugil tade	...	..	...	...
565.	Bhangar bata	Labeo bata	...	...	...	...
566.	Bhetka	Lates calcifer	...	...	...	...
567.	Bhole	Sciacna coitor	...	...	...	...
568.	Big-jawed jumper	Lactarias lactarias	...	...	...	...
569.	Black pomfret	Stromateus niger	...	...	...	...
570.	Blue mussel	Mytilus edulis	...	...	...	...
571.	Boal	Wallango attu	Shivada	...	...	...
572.	Bugda chinghri	...	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
			FISHES			
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Manangu	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	Bhetki	...	...	...	Lates calcarifer
...	...	...	...	...	...	...
...	...	...	...	Adavu	...	...
...	...	...	...	Karuppu avoli	...	...
...	...	...	...	Kaduka	...	...
...	...	Bowari machli	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
573.	Cat fish	Siluridoe	Shingala	...	...	...
574.	Chela	...	...	...	...	...
575.	Chital	Notopterus chitala	...	...	...	...
576.	Cockup	Lates calcarifer	...	...	...	...
577.	Crab (Muscle)	...	Kekra	Nandu	Endrag peetha	Nalli mamsa
578.	Crab (Small)	Paratelphusa spinigera (W.M.)	...	...	...	...
579.	Dhain	Silonia silundia	...	...	...	...
580.	Fesha	...	...	...	...	...
581.	Fish flour	...	...	...	...	...
582.	Fish meal (Arix)	...	...	...	...	...
583.	Fish meal (Caranx)	...	...	...	...	...
584.	Fish meal (shark)	...	...	...	...	...
585.	Folui	Notopterus notopterus	...	...	...	...
586.	Ghol	Scioena miles	Dhoma	...	...	...
587.	Gima shak	Erythroca roxburghii-Gentianaceae	...	...	...	...
588.	Goggler	Caranx crumeno-pthalmus	...	...	...	...
589.	Gurjowli	Polynemus tetradactylus				

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	Arius caelatus ; Osteogeniosus militaris
...	...	...	...	...	...	...
...	...	Chitole	...	...	...	...
...	...	...	...	Narimeen	...	...
Kankada	Khekra	Kankara (Peshi)	Karachlo	Nhandu (Dasa)	...	...
...	...	Kekra (chhota)	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Chamban	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
590.	Hilsa	Clupea ilisa	Bhing ; Pala	...	...	...
591.	Herring, ox-eyed	Megalops cyprinoides	...	...	...	...
592.	Horse mackerel	Caranx malampygus	...	...	...	...
593.	Indian herring	Pellona brachysoma	...	...	...	...
594.	Indian whiting	Sillago sihima	...	...	...	...
595.	Jew fish, Pallikora	Otolithes ruber	...	...	...	...
596.	Jew fish, Kora	Pseudoscioena coiber	...	...	...	...
597.	Kajura	Lates calcrifer	...	...	...	...
598.	Kalabasu	Labeo calbasu	Kanas	...	...	...
599.	Karch kala	Musaceae paradisiaca	...	...	...	...
600.	Katla	Catla catla	...		...	...
601.	Katla (from Jheel)	-do-	...	...	...	...
602.	Kharsala	...	...	...	...	...
603.	Kholshe	...	...	...	...	...
604.	Khoyra	...	...	...	...	...
605.	Koi	Anabas testudineus	...	...	...	...
605.	Koocha machli (Andha sanp)	Amphipnous cuchia (Hamilton)	...	...	...	...
607.	Kuja vetki	...	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	Hilsah	...	...	...	Indian shad ; Ilish ; Hilsha ilisha
...	...	...	...	Valathan	...	...
...	...	...	...	Ovupara	...	...
...	...	...	...	Kannan mathi		... ...
...	...	...	...	Poozhan	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	Katl	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	Kai	...	...	...	Anabus testudineus
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
608.	Lady vendi	...	...	...	...	...
609.	Lata	Ophicephalus punctatus	Maral			
610.	Lobster or Tengul gorla	Paloemon sp.	...	...	...	...
611.	Mackerel	Rastrelliger kanagurta	...	...	...	...
612.	Magur	Clarius batrachus	...	...	...	...
613.	Mahasole	Barbus (Tor) putitora	...	...	...	...
614.	Mangalore, big fish	...	Machhli	Meen	Chapa	Mangalore dodda meena
615.	Mangalore, small fish	...	...	Meen	...	Mangalore chikka meena
616.	Mowrala	Amblypharyn godonmola	...	...	...	..
617.	Mrigal	Cirrhina mrigala	...	...	...	...
618.	Mullet	Mugil oeur	Boi	...	...	...
619.	Oil sardine	Sardinella longiceps	...	...	...	...
620.	Pabda	Callichrous pabda	...	...	...	...
621.	Pakal	Dasyatis zugei	Sakchi ; Pakat	...	...	...

Indian Languages *(Contd.)*

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Aila	...	...
...	...	Manguri machli	...	...	...	Clarius magur
...	...	...	...	...	...	...
Bada machha	Masali	Matsha (Bara Mangalore)	Machhli	Malsyam Mangala purathu ninnu kittunna viliya malsyam	...	...
Chhota macha	Masali	Matsha (Chota Mangalore)	...	Malsyam (Mangala-purathu ninnu kittunna cheriya malsyam)	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Thirutha	...	...
...	...	...	...	Nalla mathi	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
622.	Palmplate	...	...	...	...	...
623.	Pangas	Pangasius pangasius	...	...	...	...
624.	Parsey	Mugil parsia	...	...	...	...
625.	Parsey (big varieties)	...	...	...	...	...
626.	Pomfrets	Stromateus	...	...	...	...
627.	Pooin shak	Bassela cordifolia chenopodiaceae	...	...	...	...
628.	Prawn (Muscle)	...	Jhinga	Era	Royya	..
629.	Prawn (Andail Gorla)	Paloemon sp.	...	...	...	...
630.	Prawn (Karuana Gorla)	Paloemon lamarrei	...	...	...	...
631.	Sea Prawns Chemmin	Peneus monodon	...	...	...	...
632.	Sea Prawns Kozhi Chemmin	Peneopsis dobsonii	...	...	...	...
633.	Sea Prawns, Chemmin	Peneus semisulcatus	...	...	...	...
634.	Sea Prawns, Vala chemmin	Trachypeneus asper	...	...	...	...
635.	Puti	Barbus sp.	...	...	...	...
636.	Rangoli	...	...	..	...	...
637.	Ray	Rhinoptera seweli	...	...	...	...
638.	Ribbon fish	Trichiurus savala	...	...	...	...
639.	Rohu	Labeo rohita	...	...	...	...
640.	Rohu (from Jheel)	-do-	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Chingudi	Jinga	Bogda chingri (Peshi)	Zinga	Chemmeen	...	Chingri
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
..	...	...	...	...	...	...
...	...	...	...	...	...	...
..	...	...	...	Nei-thirandi	...	...
..	...	...	...	Velli thalayan	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
641.	Rohu fish (Roes)	Labeo rohita	...	...	...	...
642.	Royna	...	...	...	...	...
643.	Sakchi	Dasyatis sp.	...	...	...	...
644.	Sardines	Sardinella fimbriata	...	...	...	...
645.	Sardines	Opisthopterus tartoor	...	...	...	...
646.	Sarputi	Burbus sarana	...	...	...	...
647.	Shark	Carcharias laticaudus	Mushi	...	...	...
648.	Shark	Carcharius menisorrah	...	...	...	...
649.	Seer, Ayakora	Cybium guttatum	...	...	...	...
650.	Silver belly (nallamullan)	Leiognathus bindus	...	...	...	...
651.	Silver belly (chakramullan)	Leiognathus insidiatrix	...	...	...	...
652.	Singhada	Arius dussumieri	...	...	...	...
653.	Singhi	Sacchobranchus fossilis	Shinghi	...	...	...
654.	Sole	Ophcephalus striatus	...	...	...	...
655.	Sole (West Coast, Madras)	Cyanoglossus semifasciatus	...	...	...	...
656.	Sooga machli	Eutropiichthys vacha	...	...	...	...
657.	Surmal	Cybium kuhlii	...	...	...	...
658.	Tengra	Mystus sp.	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	Rehu machli ka anda	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Chala mathi	...	...
...	...	...	...	Ambatta	...	...
...	...	...	...	...	...	...
...	...	...	...	Sravu	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	Valial etta	...	Catfish
...	...	...	...	...	...	Heterop-neustes fossilis
...	...	...	....	...	...	...
...	...	...	...	Vala manthal	...	...
...	...	Bacha	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
659.	Thread fin	Polynemus hepta dactylus	...	...	...	...
660.	Tunny	Thynnus macropterus	...	...	...	...
661.	Vajra	...	...	Meen	...	...
662.	White bait	Stolephorus tri	...	...	...	...
663.	White Pomfret	Stromateus cinereus	...	...	...	...
						SUN-DRIED
664.	Bali Kanakda	...	...	...	...	...
665.	Bhangar	Mugil tade	...	...	...	...
666.	Bhetki	Lates calcifer	...	...	...	...
667.	Chelwa	Chela phulo	...	...	...	...
668.	Bombay Duck	...	...	...	...	...
669.	Chiki	...	...	...	...	...
670.	Chingni (small)	...	...	...		...
671.	Chingri-Goga chingri	...	...	...	...	...
672.	Chingri-Halda Chingri	...	...	...	...	...
673.	Chingri—Matka chingri	...	...	...	...	...
674.	Chingri—Rangi Chingri	...	...	...	...	...
675.	Chingri—Sada Chingri	...	...	...	...	...
676.	Fesha	...	...	...	...	...
677.	Hilsa (wet cured with salt)	Clupea ilisa	...	...	...	...
678.	Joyali magur	...	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	Bahmeen	...	...
...	...	...	...	Sooda	...	...
Gania machha	Masali	Matsha (vajra)	...	Vaijra malsyam	...	...
...	..	...	..	Nethal	...	...
...	...	...	...	Vellai avoli	...	...
FISHES						
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	..	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
679.	Khoyra	...	...	...	...	...
680.	Laukhola	...	...	...	...	...
681.	Modal machh	...	...	...	...	...
682.	Muti	...	...	...	...	...
683.	Parsey	Mugil parsia	...	...	...	...
684.	Pata machh	...	...	...	...	...
685.	Ribbon	...	...	...	...	...
686.	Rupapatar	...	...	...	...	...
687.	Shanka Chur	...	...	...	...	...
688.	Sukhua Machli	Amblypharyn godon sp.	...	...	...	...
689.	Sukhua Machli	Clupea Chapra	...	...	...	...
690.	Sukhua Machli	Barbus ticto	...	...	...	...
691.	Taltapra	...	...	...	...	...
692.	Tangra	...	...	...	...	...
693.	Tapra	...	...	...	...	...
694.	Tapsi	Polynemus paradisus	...	...	...	...
						OTHER
695.	Beef muscle	Bos taurus	Gai ka gosht	Mattu eraichi	Go mamsamu	Danda mamsa
696.	Beef meal	-do-	...	...	...	...
697.	Bhat Jhinga	Palaemon sp.	...	...	...	...
698.	Boordood	...	...	...	...	...
699.	Buffalo's (Shoulder blades)	Balbus bubalis	Bhains ka gosht	...	...	...
700.	Dhauns	Rana tigrina	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
FLESH FOODS						
Gomansa	Go-mans	Gomangso (Peshi)	Gomas	Gomamsam (Dasa)	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Immature shrimps
...	...	...	...	...	...	Winged white ants
...	...	...	...	...	...	...
...	...	...	...	...	...	Indian bull frog

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
701.	Duck	Anas platyrhyncha	Buttak	Vathu	...	...
702.	Duck's egg-yolk	...	...	Vathu muttaimanjal karu	...	...
703.	Egg, duck	...	Batakh ka anda	Vathu muttai	Bathu guddu	Bathu motte
704.	Egg, hen	...	Murgi ka anda	Kozhi muttai	Kodi guddu	Koli motte
705.	Egg yolk, hen's	...	...	...	...	...
706.	Egg white, hen's	...	...	...	...	...
707.	Field rat's meat	...	Harna chuha ka gost	...		...
708.	Finch	Fringillidoe	Bageri	...	...	...
709.	Fowl	Gallus bankiva murghi	Murgha	Kozhi	...	...
710.	Fresh water mussel	Lamellidens marginalis	Situwa	...	...	...
711.	Goat meat muscle	Capra hyrchusb.	Khasi ka gosht	...	...	...
712.	Grey quail	Coturnic coturnix	Batair	...	...	...
713.	Liver, goat	Capra hyrchusb.	Khasi ka jigar	...	...	...
714.	Liver, sheep	...	Kaleji (Bher)	Attu eeral	Gorrai karjamu	...
715.	Mutton (Muscle)	...	Bakri ka gosht	Attu eraichi	Mamsamu	Mamsa
716.	Meat of narrow snouted crocodile	Gavialis gangeticus, Gmelin	Gharial ka gost	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	Vathu	...	...
...	...	...	...	...	...	...
Bataka dimba	Ande, Budak	Dim (Pantihash	Batak-nu Indu	Vatthu mutta	Batakh Thul	...
Kukkuda dimba	Ande, Kombdi	Dim (Murgi)	Margi-nu Indu	Kozhi mutta	Kokar Thu'l	...
...	...	...	...	...	...	...
...	...	...	...	...	.	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	Kuakur	...
...	...	..	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Mendha kalija	Kaleej	Mete (vera)	Kaleju	Attin karal	Kre'hnu-maaz	...
Mansa (Chheli or mendha)	Mans, Sheli	Vera mangso (Peshi)	Ghetanu gos	Attiraichi (Dasa)	Maaz	...
...	...	...	...	...	...	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
717.	Pigeon	Columba Livia intermedia	Kabutar	Pura	...	...
718.	Pork (Muscle)	Sus cristatus Wagner (domesticated)	Suar ka gosht	Panni eraichi	Pandi mamsamu	Handi mamsa
719.	Red ants with eggs	Aecophylla smaragdina Fab.	Hau or mata	...	...	...
720.	Ruff and Reeve	Philomachus pugnax, Linn	Chaha (bara)	...	...	...
721.	Shrimp, small dried	Paloemon lamarrei	Sukhua jhinga (chhota)	...	...	...
722.	Snail—small	Viviparus bengalensis f. typica (Lamarck)	Ghonghi	...	...	...
723.	Snail—Big	Pila globosa	Ghongha	...	...	...
724.	Tortoise muscle	...	...	...	...	...
725.	Turtle's meat	Lissemys punctata Bonnaterre	Abhua kachua	...	...	...
726.	Turtle's meat	Kachuga tectum gray	Dhonr kachhua	...	...	...
727.	Turtle's meat	Hardella thurgi gray.	Gorha, harwa or katwa	...	...	...
728.	Turtle's meat	Trionyx gangeticus, Cuvier	Katah kachhua	...	...	...
729.	Turtle's meat	Kachuga kachuga, gray	Sal kachhua	...	...	...
730.	Turtle's egg	...	Katchua ka anda	...	...	...
731.	Venison	Antilope cervicapra Linn.	Haran ka gost	...	...	...

Indian Languages *(Contd.)*

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	Katar, maaz	...
Ghusuri mensa, (Chingudi)	Mans, Dukar	Sukar mangso (Peshi)	Suvarnu mas	Panni erachhi (Dasa)	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
732.	Wood sand piper	Tringa galareola	Chahee	...	...	...
						FATS AND
733.	Butter	...	Makhan	Vennai	Benne	Benne
734.	Ghee, fresh, High Moisture, cow	...	Ghee	Ney, Ilam kaichal pasu)	Neyyi	Thuppa
735.	Ghee, fresh, Low Moisture, cow	...	-do-	Ney, muruga kaychal (pasu)	Neyyi	-do-
736.	Ghee, buffalo	...	-do-	Ney (Erumai)	-do-	-do-
737.	Vegetable cooking oil (Sesame, groundnut, coconut, safflower, mustard)	...	Tel (til ka, mong phali ka ; nariel ka, kusumbh ; rai ka)	Ennai (Samaiyalukku upayogam) (Nallennai ; Kadalai ennai ; Thengai ennai ; Kusuma ennai ; Kadugu ennai)	Nuvvulu nune ; Kadale nune ; Gobbari nune ; Kardi nune ; Rai nune	...
738.	Vanaspati	...	...	Vanaspati	...	...
						MILK AND
739.	Milk, Cow's	...	Gai ka dudh	Pasum pal	Avu palu or geda palu	Hasuvina halu
740.	Milk, Buffalo's	...	Bhains ka dudh	Erumai pal	Barrae palu	Yemme halu
741.	Milk, Goat's	...	Bakri ka dudh	Attu pal	Meka palu	Adina halu

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
EDIBLE OILS						
...	...	...	...	...	Thany	...
...	Thuppa	...	...	...	...	...
...	-do-	...	...	..	...	
...	-do-	..	..	...	.	
...	...	...	...	..	.	..
...	...	...	...	...	...	.
MILK PRODUCTS						
Caidudha	Dudh, gay	Dudh (Garu)	Gaynu dudh	Pasuvin pall	Gaav duad	...
Mainsi dudha	Dudh, maaish	Dudh (mahish)	Bhesnu dudh	Eruma pal	Maa'shi duad	...
Chheli dudha	Dudh, Sheli	Dudh, (Sagal)	Bakrinu dudh	Attin pal	Tshaavgi chir	...

Names of Foodstuffs in

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
742.	Milk, Human	...	Aurat ka dudh	Thay pal	Chanu palu	Yede halu
743.	Milk, Ass's	...	...	...	Kazhuthai pal	...
744.	Curds	...	Dahi	Thayir	Perugu	Mosaru
745.	Buttermilk	...	Matha	More	Majjiga	Majjige
746.	Skimmed milk, liquid	...	...	Kadaintha pal	...	...
747.	Channa (Cow's milk)	...	...	...	...	...
748.	Channa (Buffalo's milk)	...	...	...	...	...
749.	Cheese	...	Panir	Palkatti	Junnu	Ginnu
750.	Kheer	...	...	...	...	...
751.	"Koa" (Whole Buffalo milk)	...	...	Theratti pal	Kova	Khova
752.	"Koa" (skimmed Buffalo milk)	...	...	...	...	...
753.	"Khoa" (Whole cow's milk)	...	...	...	...	...
754.	Skimmed milk powder (Cow's milk	...	...	Kadaintha pal thool	...	...
755.	Whole milk powder (Cow's milk)	...	...	Pasum pal podi	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
Maa dudha	Dudhi, Stri	Dudh (manush)	Strinu dudh	Mulappal	...	...
...	...	...	...	...	...	...
Dahi	Dahi	Dadhi	Dahi	Thayirh	Zaamut duad	...
Ghola dahi	Tak	Ghol	Chhas	Moru	Chuaku duad	...
Sarakadha dudha	...	Makhantana dudh	...	Padakalanya pal	Gurus	...
...	...	Channa	...	...	...	...
...	...	-do-	...	...	...	...
Chhena	Khava	Panir	Paneer	Palkatti	Tsaaman	...
...	...	Kheer	...	...	...	...
Khua	...	Khoa khir (mahish) dudh	...	Thani eruma pal kondulla 'kova'	...	...
...	...	Makhantana khoa	...	Pada neekiya eruma pal kondulla 'kova'	...	...
...	...	Khoa khir (garu dudh)	...	..	...	...
Sarakada dudha gunda	...	Makhantana-churna dudh	...	Padakalanya pal podi	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
						MISCELLANEOUS
756.	Arecanut	Areea catechu	...	Pakku	Poka kaya, Vakka	Adike
757.	Arrowroot	Maranta arundinacea	...	Kuva mavu	Pala gunda	...
758.	Bajjar Bhang	...	...	...	...	...
759.	Bali or lawa chhattoo (Edible mushroom)	...	...	...	...	...
760.	Banti	...	...	...	...	...
761.	Barai dal	...	...	...	...	...
762.	Betel leaves	Piper betle	Pan	Vethilai	Thamala paku	...
763.	Bhangari	...	...	...	...	..
764.	Bhangri-ka-atta	...	...	...	...	...
765.	Bhilisa of Elo	...	...	...	...	...
766.	Bhoose-ka-atta	...	...	...	...	...
767.	Bhorra chhattoo	...	...	...	...	...
768.	Bittergourd, canned	Momordica charantia	...	...	...	...
769.	Bread, white	...	...	...	...	...
770.	Bread, brown	...	...	...	...	...
771.	Bulgar wheat (Processed)	...	...	...	...	...
772.	Cane sugar (Home made)	Saccharum officinarum	Deshi chini	...	...	...
773.	Cane sugar (Commercial)	-do-	Chini	Aska sarkarai	...	...
774.	Cereal grain "Kathu"	...	...	...	...	...
775.	Cheno	...	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
FOODSTUFFS						
Gua	...	Supari	Sopari	Adakka	...	...
Araroot	...	Tavkeel	...	Koovapodi	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Pana	...	Pan	Nagarvelna pan	Vettila	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	Madrar	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
776.	Cholai or seel	...	...	...	...	...
777.	Chookri-ka-atta	...	...	...	...	...
778.	Chookri-ka-patta	...	...	...	...	...
779.	Chhota karhani chatto	...	...	...	...	...
780.	Chukary	...	...	...	...	...
781.	Coconut, tender	...	...	Elanir	Latha gobbari	Yelnee
782.	Coconut water (from 5 month old nuts)	Cocos nucifera	...	Thengai thannir	Gobbari kaya neeru	Thengu nerru
783.	Coconut water (from 6 month old nuts)	Cocos nucifera	...	...	...	
784.	Coconut water (from 8 month old nuts)	-do-	...	...	...	...
785.	Coconut water (from 10 month old nuts)	-do-	...	...	...	...
786.	Coconut water (from 12 month old nuts)	-do-	...	...	...	...
787.	Coconut milk (from 10 month old nuts)	-do-	...	...	...	...
788.	Coconut milk (from 12 month old nuts)	-do-	...	...	...	...
789.	Coconut kernel (from mature nut)	-do-	...	...	...	...
790.	Coconut Palm sugar (home made)	-do-	Narial chini	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Langra chhattoo
...	...	...	...	...	...	...
Paida	Shahale	Dab (Kanchi narikel)	...	Elam thenga Karrikku	...	...
Paida pani	Naral pani	Narikel (jol.)	Pani natiyal	Thenga vallam	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...

Serial No.	Name of foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
791.	Coconut palm jaggery	-do-	...	...	...	...
792.	Cod-liver oil	...	Machhli ka tel	Meen ennai	Chapa noonei	Cod meen yenna
793.	Coffee powder	...	...	...	...	...
794.	Cowage-seed flour	Mucuna capitata	Kabach sattoo	...	...	...
795.	Date-palm sugar (Home made)	Phoenix dactylifera	Khajur chini	...	...	...
796.	Date-Palm jaggery	-do-	..	...	...	...
797.	De-oiled coconut meal	Cocos nucifera	...	...	...	...
798.	Dingil Chhattoo	Collybica sp.	...	...	..	...
799.	Elo	...	...	...	..	...
800.	Fan-palm jaggery	Borassus flabellifer	...	...	...	...
801.	Groundnut cake	Arachis hypogea	Chinia badam ka khali	Kadalai punnakku	...	...
802.	Gourd mushroom	Bovista gigantea	Tumba chhattoo	...	...	...
803.	Halibut liver oil	...	Machhli ka tel	Meen ennai	...	...
804.	Honey	...	...	Then	...	...
805.	Jaggery	...	Gur	Vellum	Bellum	Bella
806.	Kalipakku	...	...	Kalipakku	...	...
807.	Kankrol, canned	Momordica cochinchinensis	...	...	...	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
Kadama-chha tela	...	Cod matsha tail	Ko machhlined tel	Cod meenenna	...	...
...	...	...	...	...	...	...
...	...	...	..	...	..	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Baskhukhri chhattoo
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Halibat machha tela	...	Halibut matsha tail	...	Halibu meenenna	...	...
...	...	...	...	...	Maanch	...
Guda	Gul	Gur	Gol	Vellam (sarkara)	Gor	Gud
Kanchagua sijha	...	Lal supari	...	Kalipakku	...	...
...	...	...	...	...	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
808.	Karela, canned	Momordica charantia	...	...	...	...
809.	Lamtra	...	...	...	...	...
810.	Lotus seeds, dry	Nelumbium nelumbo	...	...	...	...
811.	Lotus stem, dry	...	...	...	...	...
812.	"Madapu Ginja"	...	...	...	...	...
813.	Mahua flowers	Bassia latifolia and B. longifolia	Kaccha mahua	Iluppam poo	...	...
814.	Mango pulp, canned	...	...	...	...	...
815.	Mango slice, canned	...	...	...	...	... ...
816.	"Makhana"	...	...	...	...	...
817.	Malted Palmyra root	...	...	Panam kizhangu	Thegalu	...
818.	Mushroom, anthill	Entoloma macrocarpum	Tila chhattoo	... ...	... ...	... ...
819.	Neera	...	...	...	...	...
820.	Pachwai (Assam)	...	...	...	...	...
821.	Palmyra palm sugar (Home made)	Borassus flabellifer	Tar ka chini	...	...	...
822.	"Pappads"	...	Pappar	Pappadam	Appadam	Happala
823.	"Parwar" (Canned)	...	...	...	...	...
824.	Patra chattoo (Edible mushroom)	...	...	...	...	...
825.	Perandai	Vitis quadrangularis	...	Perandai	...	Perundai

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Nadu'r
Ganjei, Pati	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Tala kanda	...	...	...	Panam kizhangu	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Papada	...	Papar	Papad	Pappadam	...	..
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Siju	...	Har, Harbhanga	...	Peranda	...	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
826.	Phog flowers, dry (Rajasthan)	Calligonum polygonoides	...	...	...	...
827.	Phutka chhattoo (Rugroo)	Lycoperdon sp.	...	...	...	...
828.	Pink beans, canned	...	...	...	...	...
829.	Poppy seeds	Papaver somniferum	Postdana	...	...	...
830.	Pumpkin seeds	Cucurbita maxima	...	...	...	...
831.	Rajakeera seeds	Amaranthus paniculatus	...	...	...	...
832.	Red palm oil	Elaies guinensis	Surkh Khajur ka (African) tel	Sivappu pana ennai	Yerra thatti noonei	...
833.	Rice bran	Oryza sativa	...	...	...	...
834.	Roasted tamarind seed kernel	Tamarindus indicus	Imli ka bia ka gudda	...	...	...
835.	Saijan ka phool	Moringa oleifera	Munga phool	...	...	...
836.	Seeds of Roselle	...	...	...	...	..
837.	Sal Ka Phal	Shorea robusta	...	...	...	...
838.	Sankalu	Pachyrhizus angulatus				
839.	Sawak-ka-chawal	...	...	...	...	..
840.	Sago	Metroxylon sago	...	Javvarisi	Saggu biyam	..
841.	Sago palm jaggery	-do-	...	...	...	...
842.	Shark liver oil	...	...	...	...	...
843.	Singhara, dry	Trapa bispinosa	...	...	Neeti badam	...

Indian Languages (*Contd.*)

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
...	...	...	...	...	...	Puff-ball mushroom
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	... ...
Khajuri tela (nali)	...	Khejur tail	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	Drumstick flowers
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Sagudana	Sabudana	Sago	Sabudana	Javvari	Soboodaana	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Sukhila singada	Shingada	Paniphal (Sukna)	...	...	Gaar	...

Serial No.	Name of Foodstuff	Scientific name	Hindi	Tamil	Telugu	Kannada
844.	Straw Mushroom	Volvaria terastius	Pual chhattoo	...	...	...
845.	Sugar-cane	...	...	Karumbu	Charaku karra	...
846.	Sugar-cane preserves	...	...	Karuppan char	Charaku rasam	Kakambi
847.	Sugar-cane juice	...	Ganne ka ras	Karuppan char	Charaku rasam	Kubbina rasa
848.	Tangunika chawal	Setaria italica, Beauv.	...	...	...	...
849.	Tissourie (Mixture of black gram and linseed)	...	...	...	...	...
850.	Toddy, sweet	...	Tarail	Padaneer	Thiyya kallu	Neera
851.	Toddy, coconut, sweet	...	...	Thennai padaneer	Kobbari kallu	Thengu neeru
852.	Toddy, coconut, fermented	...	...	Thennang-kallu	...	Henda
853.	Toddy, fermented (from shop)	...	...	Kallu	Kallu	Angadi henda
854.	Water lily seeds	Nymphea lotus	...	...	...	...
855.	Yeast, dried (food)	...	...	...	...	...
856.	Yeast, dried (Brewer's)	...	...	...	...	...

Indian Languages *(Contd.)*

Oriya	Marathi	Bengali	Gujarati	Malayalam	Kashmiri	Other names
...	...	...	...	...	...	...
Akhu	...	Ikkhu	...	...	...	...
...	...	Chini shira	...	...	...	...
Akhju dorua	Uns rasa	Ikkhu raush (Akh)	Sherdina vas	Karumbin neeru	...	...
...	...	...	...	...	...	...
...	...	...	...	...	...	...
Khajuri rasa	Neera	Mitha tari	Nira	Chakkara-kkallu	...	...
Nadia rasa	...	Tari (Narik)	...	Thengin chakkarakallu	...	...
Tadi	Tadi	...	...	Pulicha thengin kallu	...	...
...	Tadi	Gajan tari	Tadi	Pulicha kallu (shoppil ninnu kittiyathu)	...	...
...	...	...	...	...	...	...
...	Khumir	Yeast, khamir	Khamir	Unangiya sura mandam	...	...
...	...	...	...	...	...	...

ERRATA

Page No.	Line	For	Read
14	6	Vitamins	Vitamins.
33	12	diet the substitution	diet : the substitution
42	12	Goat's	Buffalo
43	21	milk of over	milk for over
44	16	advantages	advantage
45	17	needs	intake
48	10	chlorine	chlorine,
79	Item 765 (Bhilisa of Elo)	protein 37·3 carbohy-drates 43·9	9·6 71·6

Page No.	Item No.	Col.	For	Read
84	21	12	1·406	1,406
230	646	3	Burbus sarana	Barbus sarana
240	733	6	Benna	Venna
246	787	5	...	Thengai pal
246	789	5	...	Thengai paruppu

PUBLICATIONS OF THE
INDIAN COUNCIL OF MEDICAL RESEARCH
(FORMERLY INDIAN RESEARCH FUND ASSOCIATION)
P.O. Box. No. 494, NEW DELHI.

A—Special Report Series.

		Price Rs. nP.
*1.	Report of the Special Committee on Medical Research appointed by the Governing Body, Indian Research Fund Association. (December, 1938) 5 pages	*Gratis*
*2.	Indigenous Drugs Inquiry—A review of the work by Lieut.-Colonel R.N. Chopra, C.I.E., M.D., F.R.C.P. (Lond.), I.M.S. (R). (July, 1939) 58 pages	0 25
*3.	Note on the Results of Diet Surveys in India by W.R. Aykroyd, M.D., Sc.D. (December, 1939) 17 pages	0 50
*4.	Report of Tuberculosis Survey Sub-Committee of the Indian Research Fund Association. (July, 1940) 66 pages	0 50
*5.	Cholera Research in India 1934-40 under the Indian Research Fund Association—A review by Major-General J. Taylor, C.I.E., D.S.O., I.M.S., (August, 1941) 38 pages	0 50
*6.	Report of the Leprosy Sub-Committee of the Indian Research Fund Association (September, 1941) 37 pages	0 50
*7.	Memorandum on Anaemia in Pregnancy in India by L. Everard Napier, F.R.C.P. (Lond.), and M.I. Neal Edwards, M.D. (Lond.), W.M.S., including Haematological Technique by L. Everard Napier, F.R.C.P. (Lond.), and C.R. Dass Gupta, M.B., D.T.M. (Cal.). (March, 1942) 174 pages	3 50
8.	The use of Fresh Milk in Infant Feeding. (May, 1942) 8 pages	*Gratis*
9.	Treatment and Management of Starving Sick Destitutes prepared by the Committee of Enquiry into Effects of Starvation, Indian Research Fund Association. (December, 1943) 13 pages	*Gratis*
10.	The Feeding of Children from Six Months to Six Years in War Time. (March, 1944) 15 pages	*Gratis*
*11.	Note on the Statistical Control of Diet Surveys. (June, 1944) 5 pages	*Gratis*
12.	Studies on Basal Metabolism in India—A Review by V.N. Patwardhan, M.Sc., Ph.D., A.I.I.Sc., Assistant Professor of Biochemistry, Seth G.S. Medical College, Bombay. (December, 1944) 22 pages	0 37
13.	Report on Soya Bean by the Soya Bean Sub-Committee of the Nutrition Advisory Committee of the I.R.F.A. (January, 1946) 35 page	0 50
*14.	Report on Diet Survey in College and School Hostels in Delhi by K.L. Shourie, B.Sc., M.B.B.S. (Punjab), M.Sc. (Madras), M.D.S., Nutrition Research Laboratories, Coonoor. (January, 1946). 16 pages	1 00

* **Out of stock.**

No.	Title	Price Rs. nP.
*15.	Studies on Protein, Fat and Mineral Metabolism in Indians by K.P. Basu, D.Sc., Ph.D., Reader in Chemistry, Dacca University, and Officer-in-Charge, I.R.F.A. Nutrition Research Unit, Biochemical Laboratory, Dacca University. (June, 1946) 16 pages ...	0 75
16.	Note on the Results of Diet Surveys in India, Burma and Ceylon by W.R Aykroyd, C.B.E., M.D., Sc.D., ex-Director, Nutrition Research Laboratories, I.R.F.A., Coonoor. (January, 1948) 35 pages ...	1 00
17.	Summary of the findings of Investigation into the Causes of Maternal Mortality in India by S. Pandit, W.M.S., Director, Maternity and Child Welfare Bureau, Indian Red Cross Society, New Delhi. (June, 1948) 12 pages ...	1 00
18.	Report of the Inquiry into Bearing of Premature and Immature Births of Infant Mortality in Bombay (1946-48) by B. C. Das Gupta, B.Sc., M.B., L.M., D.P.H., M.R.C.P., D.T.M. & H., Executive Health Officer, Bombay Municipality, Bombay. (March, 1951) 32 pages ...	1 00
19.	Studies in the Histology of Early Lesions in Leprosy by V.R. Khanolkar, M.D. (Lond.) 18 pages and 30 Illustrations ...	2 50
20.	Report on the Results of Diet Surveys in India (1951) 152 pages ...	2 00
21.	A Note on the Management and Technique of Diet Surveys in India 22 pages ...	1 00
*22.	A Review of Nutrition Studies in India (1951) 86 pages ...	2 00
23.	Wheat and Wheat Products as Human Food 55 pages ...	1 00
24.	Memorandum on the Treatment of Leprosy with Sulphones (1952) 23 pages ...	0 37
25.	A Supplement to the Results of Diet Surveys (1953). 21 pages ...	1 00
26.	Review on Haematology with a note on criteria for 'Averages' and 'Norms' (1953) 38 pages ...	1 00
27.	Fortification of Foods (1953) 21 pages ...	0 50
28.	Treatment and Hygienic Disposal of Lac Wastes by Dr. T.R. Bhaskaran (1954) 10 pages ...	0 62
29.	A Review of Occupational Health Research in India by M.N. Rao and N.P.V. Lundgren (1955) 60 pages ...	0 75
30.	A Review of Work on Indian Medicinal Plants by Lt.-Colonel R.N. Chopra and I.C. Chopra (1955) 321 pages ...	3 00
*31.	Milk Substitutes of Vegetable Origin (1955) 48 pages ...	1 00
32.	A Review of Work done on Infant Mortality by Dr. D.M. Satur and S. Bhatia (1957) 69 pages ...	1 00
33.	Proteins in Foods by S. Kuppuswamy, M. Srinivasan and V. Subrahmanyan (1958) 290 pages ...	12 00
34.	Tuberculosis in India—A sample survey 1955-58 (1959) 121 pages ...	2 00
35.	Dietary Allowances for Indians by V.N. Patwardhan (1960) 39 pages ...	*Gratis*
36.	Review of Nutrition Surveys carried out in India (1961) 96 pages ...	*Gratis*
37.	Review of Nutrition Studies in India 1951-1956, (1962) 125 pages ...	*Gratis*
38.	Physiological Norms in Indians—Pulmonary Capacities in Health—by Drs. M.N. Rao, A. Sen Gupta, P.N. Saha, and A. Sita Devi (1961) 104 pages ...	3 00
39.	Treatment and Disposal of Sugar Factory Effluents (1961) by Drs. T.R. Bhaskaran, R.N. Chakraborty, N. Das and S.N. Sinha 19 pages ...	1 00

* Out of stock.

		Price Rs. nP.
40.	A Decade of Research in Environmental Sanitation (1951-60) by Dr. T.R. Bhaskaran (1962). 67 pages	*Gratis*
41.	Nutrition for Mother and Child by P.S. Venkatachalam and L.M. Rebello (1962) 58 pages	*Gratis*
42.	The Nutritive value of Indian Foods and the Planning of Satisfactory Diets, Sixth Revised Addition by W.R. Aykroyed, C. Gopalan and S.C. Balasubramanian (1963) 256 pages	4 00
43.	Studies in Energy Metabolism by Sachchidananda Banerjee (1962) 32 pages ...	*Gratis*
44.	Manual of Standards of Quality for Drinking Water Supplies 10 pages ...	1 00

B—Other Publications

1.	Annual Technical Reports of the Scientific Advisory Board of the Indian Council of Medical Research	1 00
2.	Memorandum of the conduct of an enquiry into infant mortality (July, 1949) 28 pages	1 00
3.	Memorandum on Registration and Classification of Maternal deaths (April, 1950) 4 pages	*Gratis*
4.	Memorandum on Poliomyolites by C.G. Pandit and V. Ramalingaswamy (1955) 42 pages and 9 Illustrations	0 50
5.	Menus for low cost balanced diets and school lunch programmes by Swaran Pasricha (1959) 30 pages	0 15
6.	Nutrition in India (1946-58) by Dr. C.G. Pandit and K. Someswara Rao (1960) 92 pages	*Gratis*
7.	Report of the Assessment Committee on the National Filaria Control Programme India (1961) 113 pages	*Gratis*

C—Journals

*1.	The Indian Journal of Medical Research (Price per volume, 6 numbers—In India Rs. 35 Froeign Rs. 40) (Single Copy)	India ...	7 00
		Foreign ...	8 00
†2.	The Indian Journal of Malariology (Price per volume, 4 numbers—Rs. 12) (Single copy)	...	5 00

*Available from the Editor, Indian Journal of Medical Research, Indian Council of Medical Research, Medical Enclave, New Delhi-16.

†Available from the Editor, Indian Journal of Malariology, Indian Council of Medical Research, Ansari Nagar, New Delhi-16.

Printed by H. R. Sardana at the Cambridge Printing Works, Delhi-6.